Bloomberg Businessweek
April 2025

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ALPHABET'S
PROFIT ENGINE
BEFORE
IT LOSES
EVERYONE TO
CHATGPT

SEARCHING FOR A NEW GOOGLE

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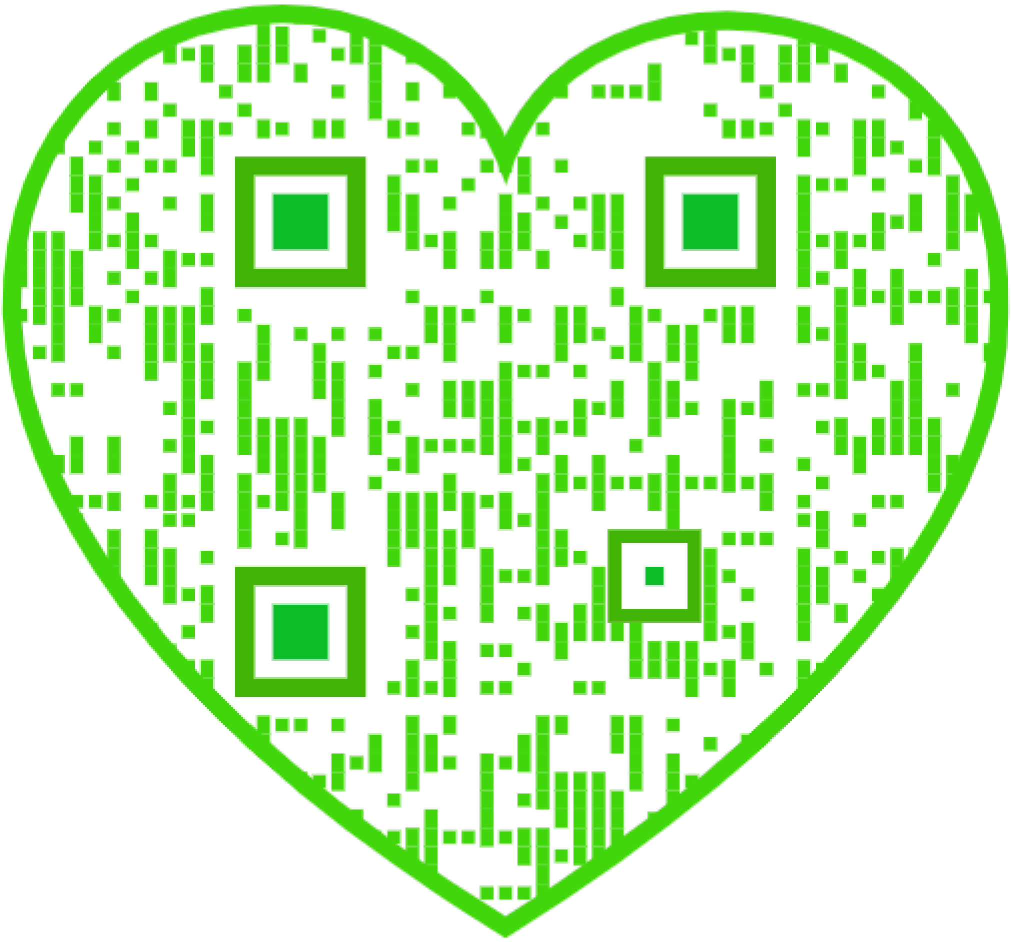

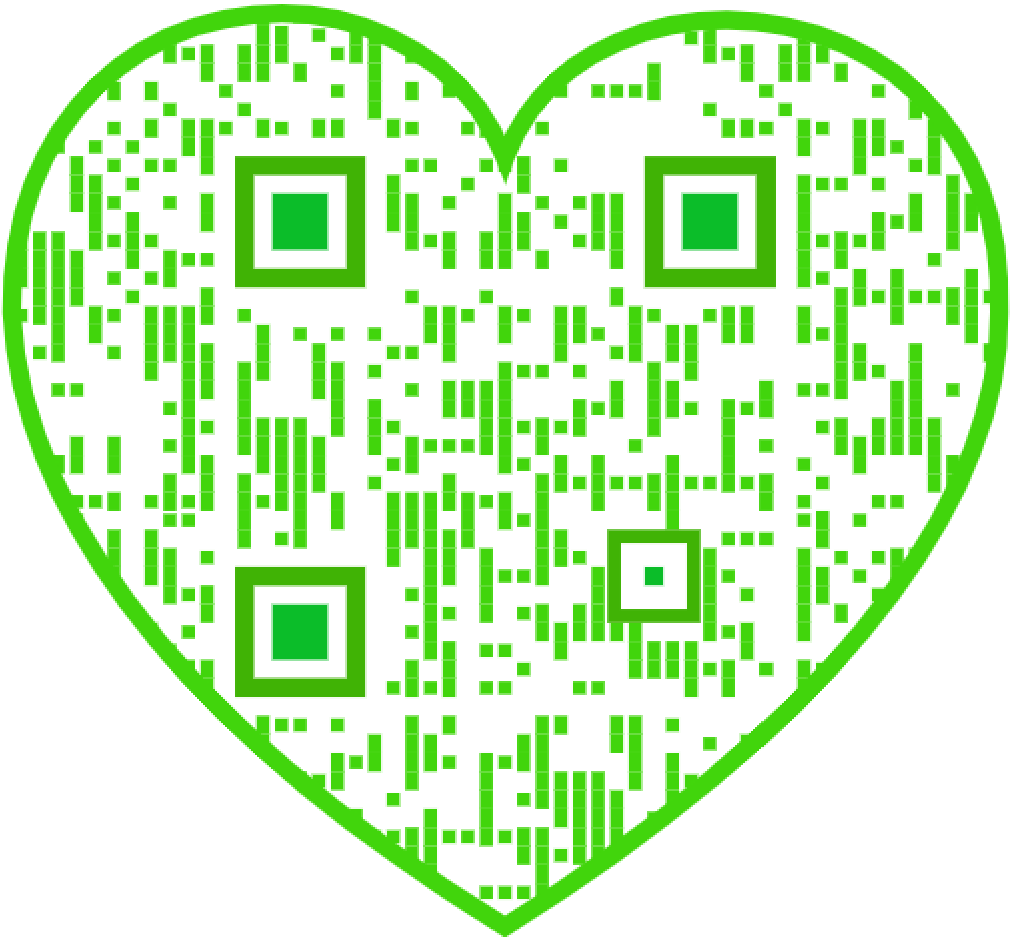

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Discover the Allure

Maiden's Tower, İstanbul

6 İSTANBUL EXPERIENCES TO LIVE LIKE A LOCAL

Begin with a Classical Turkish Breakfast

A typical Turkish breakfast is a flavorful and textured symphony, inviting travelers to savor a variety of delicacies showcasing the country's fresh produce and culinary heritage. Imagine starting your day with a freshly baked simit —a sesame-crusted bread ring and a staple of Turkish street food. Pair it with menemen, a savory blend of eggs, tomatoes, and green peppers simmered to perfection. The table is adorned with an array of local jams, fresh fruits, and assorted nuts, providing both a sweet and savory plethora for the palate. For such truly authentic gastronomic delights, be sure to visit small neighborhoods like Balat or Moda, where charming cafes exude character and warmth. Here, locals gather to share stories over a leisurely breakfast, and the ambiance is as inviting as the flavors themselves. For a more panoramic experience, consider a Turkish breakfast in the coastal neighborhoods of Çengelköy, Bebek, or Rumelihisarı along the Boğaziçi (Bosphorus), the 30-kilometer strait running through the heart of İstanbul.

Cross the Bosphorus by Ferry

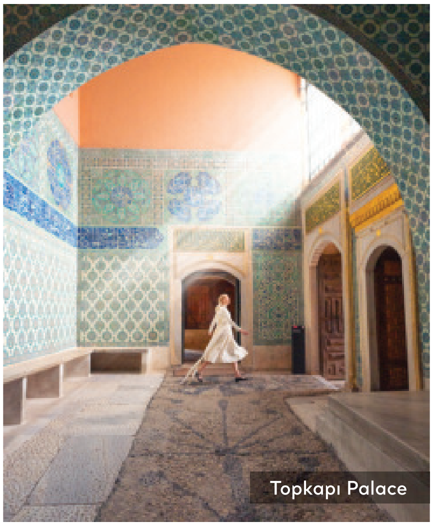
Picture yourself on a commuter ferry, traversing the waters connecting Europe and Asia. On this pleasurable 20-minute journey across the Boğaziçi, from the main hubs of Kadıköy and Üsküdar to Karaköy and Beşiktaş, locals take comfort in the simple act of breaking simit as the city's iconic seagulls gracefully swoop alongside. For a deeper exploration, take a weekend Bosphorus Cruise and witness the verdant hills and picturesque coastal neighborhoods while the fresh Black Sea breeze greets you on your way.

Get Lost in the Oldest Shops in İstanbul

Embarking on a shopping excursion in the Spice Market and Grand Bazaar is a journey into both the city's history and its very essence. Amidst the labyrinth of shops and lanes, the Spice Market offers an olfactory feast with exotic spices, teas, and culinary delights that have tempted traders and locals alike since the days of the Ottoman Empire. The aroma of saffron, cumin, and freshly ground Turkish coffee creates an intoxicating, timeless atmosphere. Similarly enthralling, the Grand Bazaar, with its sprawling complex of covered streets and hidden courtyards, stands as a testament to İstanbul's vibrant community and enduring commercial spirit. Here, shoppers can peruse an array of treasures, from intricately woven textiles to timeless kilims, fragrant hamam (Turkish Bath) merchandise, and exquisite jewelry-each piece a testament to the city's rich heritage of craftsmanship.

Partake in Art and More Shopping in Tophane

Galataport, a burgeoning, multi-faceted development, has quickly become a favorite for city dwellers seeking diverse, pleasurable experiences during their leisurely weekend strolls. Visitors can browse the latest collections of local designers, dine leisurely in waterside restaurants, and enjoy alluring sunsets over the Old City, from a distance. Beyond its retail appeal, Galataport is a cultural nexus, home to the recently reopened İstanbul Modern, a structural marvel designed by esteemed architect Renzo Piano. This museum in Tophane unveils modern art, featuring both permanent and temporary exhibitions.


Topkapı Palace

Explore a Night Out in Beyoğlu

İstiklal Street is the city's main European-style pedestrian promenade and buzzes with culture and nightlife, offering eateries, cinemas, art galleries, bars, and music clubs. Sit in a classical meyhane (Turkish Tavern) located on the lively streets of Nevizade or Asmalımescit to sample mezes and rakı, the cold appetizers and anise-flavored spirit favored by locals. At the far end of İstiklal Street, Taksim Square is the city's cultural heartbeat once again, thanks to the renovated Atatürk Kültür Merkezi (AKM - Atatürk Cultural Center), a vanguard palace for the performing arts. Attend a show in the center's main Opera Hall, designed in the shape of a giant sparkling-red globe and welcoming a host of operas, symphonies, and performing arts extravaganzas throughout the year.

Indulge in İstanbul's Timeless Hamams

Immerse yourself in the luxury of a hamam treatment, a must within the hallowed, centuries-old Turkish baths, originally commissioned by sultans and the Ottoman elite. Çemberlitaş, Galatasaray, Cağaloğlu, Hürrem Sultan and Kılıçalipaşa hamams are among the oldest in the city that survived the test of time. Alternatively, visit a 5-star hotel spa, many of which feature exquisite marble hamams inspired by historical designs. While variations exist from one hamam to another, the ritual remains consistent: on arrival, you'll receive a peshtemal, a plush cotton bathing towel, a copper bowl, and a fragrant soap before entering the central steam chamber. Here, you'll recline by your personal sink for 15-20 minutes, preparing your skin for an exhilarating scrub. An expert, using a raw silk glove, performs a transformative exfoliation, revitalizing your skin, and finishes with a blissful foam massage —the culmination of pure relaxation.

# of İstanbul - Cappadocia

Cappadocia, Nevşehir

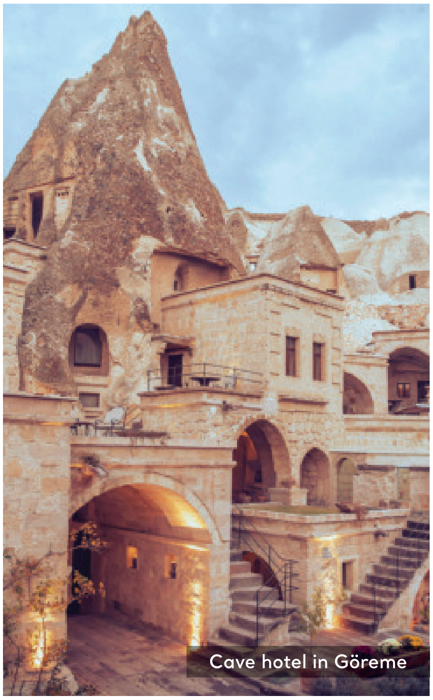
BEYOND İSTANBUL:A DREAM ESCAPE TO CAPPADOCIA

While the biggest metropolis is your gateway to many of the unmatched experiences Türkiye has to offer, Cappadocia, as well, can provide unrivaled memories when venturing beyond İstanbul. Here is how to ensure the best discoveries while in the "Land of Fairytales."

IN THE SKY

► Awaken to Ballooning at Dawn

As the sun casts a golden glow over Cappadocia's unprecedented terrain, colorful hot-air balloons take flight on an epic journey in the sky. As you ascend, you'll be awed by a breathtaking new perspective as you gracefully glide above these extraordinary land formations.



Cave hotel in Göreme

► Discover the Pigeon Nests

The enchanting 6-kilometer Pigeon Valley, connecting the charming towns of Uçhisar and Göreme, introduces the truly incomparable sight of many of the region's renowned fairy chimneys that have been intricately carved into avian abodes. Residents have long valued pigeon droppings as powerful fertilizers, contributing to the flourishing vineyards that underpin the region's rich wine-making tradition.

ON THE GROUND

► Visit UNESCO-Recognized Rock Churches

Step into the reverential interiors of 10th and 11th-century churches, carved meticulously into the soft rocks of the Göreme Open Air Museum, part of the Göreme National Park and the Rock Sites of Cappadocia which are recognized by UNESCO as cultural and natural (mixed) World Heritage site. Here, on these walls, biblical stories come to life through intricate mural paintings —a mesmerizing canvas that stands as a testament to the lasting impact of Eastern Roman (Byzantine) art.

► Cycle Along the Valleys of Cappadocia

The region's volcanic landscape provides challenging and enticing routes for cycling enthusiasts. Guided tours in Cappadocia offer a good taste of remote, wilderness biking and a selection of Türkiye's very best singletrack MTB and gravel biking routes led by expert local riders. Görkündere Valley, Swords Valley, Love Valley, Rose and Red Valleys, as well as Gomeda and Üzengi valleys are among the locations that make Cappadocia the pinnacle of off-the-beaten-path biking escapades.

UNDERGROUND

► Embark on a Subterranean World

Delve into Cappadocia's architectural history by exploring its multilevel underground cities. Among these subterranean wonders, the vaa glimpse into the ingenuity of Cappadocia's residents of yore. These two marvels reveal extensive labyrinths of passages and chambers, once housing many thousands seeking refuge and survival in times of conflict.

► Escape to Luxurious Cave Retreats

In Ürgüp and Göreme, you can stay in the ancient abodes reborn today as opulent boutique hotels. These transformed dwellings offer lavish cave suites and panoramic terraces with infinity pools, perfect for watching the daily dance of hot air balloons at sunrise.

How to Get to Cappadocia

A 90-minute direct flight from İstanbul lands you in Nevşehir or Kayseri, gateways to the vast Cappadocia region. From the airport, a 40- to 60-minute shuttle ride will take you to your hotel.

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RIYADH'S GREEN OASIS

Redefining Urban Life

Alongside Central Park in New York, Hyde Park in London, Tokyo's Yoyogi Park and the Summer Palace in Beijing, it might be time to add King Salman Park in Riyadh to the list of the world's great urban parks.

King Salman Park—one of the world's largest urban parks—will open in phases over the next three years. This project is bursting into life, transforming 16.7 square kilometers of the capital of the Kingdom of Saudi Arabia into a green oasis and a world-class hub for entertainment and culture.

The park will have 11 square kilometers of green space, including 1.1 million trees and 14 million shrubs and perennials. There will be wadis, waterfalls and lofty walkways. The verdant vistas from its apartments and hotels will provide the Middle East with a prime parkside zip code to compare with Manhattan's Upper East Side or London's Knightsbridge.

With 27,500 workers on site, construction is underway on the park's landmark buildings, notably the Royal Art Complex, which includes the Museum of World Cultures and the National Theater, a 2,300-seat performance space.

25 mins from the airport

11 million m2 of green space

A 15-minute city

The park is envisioned to be a holistic 15-minute city—a prototype for sustainable, convenient and active living—powered by five metro stations and 10 bus stations.

King Salman Park, which carries the name of the king, is one of the most ambitious initiatives of Saudi Arabia's Vision 2030, the nation's roadmap to diversify the economy and create a vibrant and sustainable society where all citizens can thrive. The park will house 96,000 people in 27,000 residential units and provide office space for 30,000 workers, and it is projected to be a destination for 50 million visitors a year. The King Salman Park Foundation, which oversees the park, is chaired by Crown Prince Mohammed Bin Salman.

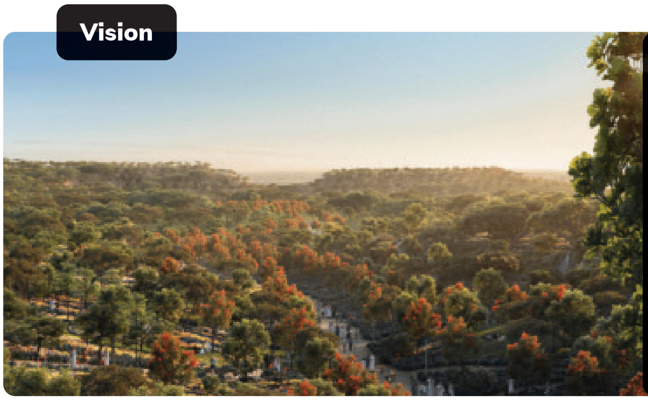
Developers have been quick to see the investment potential. More than 50 developers are in negotiations to participate in the 13 commercial packages on offer, and 11 of these packages are at the active transaction stage.

French hospitality group Accor has partnered with real estate fund Naif Alrajhi Investment to bring Accor's lifestyle hotel brand TRIBE to King Salman Park. A 250-room hotel, TRIBE Riyadh King Salman Park will offer rooftop dining with park views, wellness amenities and meeting facilities. Accor will also create TRIBE Living Riyadh King Salman Park, a collection of 150 serviced apartments with access to hotel dining and recreation facilities.

King Salman Park's mixed-use development investment opportunity comprises two districts that combine green areas with residential, office, hospitality, retail and restaurant units. One of these mixed-use districts is situated at the edge of the park, close to Riyadh's cultural district, while the other offers premium views of the Royal Arts Complex and easy access to King Salman Park's pedestrian loop walkway.

A second investment opportunity at King Salman Park aims to emulate the success of the L.A. Live complex, which has had a transformational impact on the urban development of downtown Los Angeles. The Riyadh Signature Asset Development investment opportunity will enhance Riyadh's global reputation as a destination for business, entertainment, recreation and tourism.

Vision



1.1 million
trees

14 million
shrubs and perennials

800
plant species

Progress

Plant Nursery

A natural
air conditioner

With its 70% green coverage, the park will act as natural air conditioner. This will mitigate the city's heat extremes, improving air quality and establishing a healthier urban atmosphere.

At the heart of this development area is one of the world's five largest MICE (meetings, incentives, conferences, exhibitions) facilities, along with a 20,000-seat multipurpose arena capable of hosting hybrid events. The district will contain upscale residential and retail units, a championship golf course and other recreational amenities, including an equestrian center and riding trails.

150
cultural attractions

1 national theater

5 museums

The city of Riyadh is already a gateway to diverse outdoor leisure activities, including desert safaris and hiking and climbing the "Edge of the World" summit in the Tuwaik mountain range.

King Salman Park is designed to redefine expectations of quality of life. It is a living lab for urban innovation and is harnessing smart city technologies to benefit the well-being of residents and visitors. Nature, art and technology are being integrated to create a new live-work-play destination that will offer a more sustainable solution to city life and attract green investors. The park, with 150 cultural attractions including five museums, is only 25 minutes away from King Khalid International Airport, and well connected to Riyadh's first-class hospitals and international schools.

This $25 billion venture is expected to be financed largely by Saudi Arabia's debt market, which has doubled in the last five years to reach 800 billion Saudi riyals ($213 billion). The market, which has become more open to foreign investors, will likely double again in the next five years, according to Mohammed El-Kuwaiz, Chairman of the Board of the Saudi Capital Market Authority. S&P Global, which recently boosted Saudi Arabia's outlook to positive from stable, has stated that the kingdom is in a comfortable position to offer more bonds, given that its ratio of debt to GDP remains low compared to that of most other countries.

Saudi Arabia's $1.1 trillion economy is the largest in the Middle East and among the top 20 in the world. The kingdom is projecting GDP growth of 4.7% in 2027. Its non-oil sector, which reached 50% of the economy in 2023, grew by 4.2% in the third quarter of 2024. Saudi Arabia placed third globally in Kearney's 2024 Emerging Markets Index.

96,000
residents

30,000
office workers

27,000
residential units

50,000,000
visitors per year

Central Park opened in 1858, while Hyde Park opened to the public back in 1637. In this age of artificial intelligence, as the world focuses on harnessing technology to sustain the future of humanity and the planet, it is time to look at new ways to live in cities in accordance with nature. King Salman Park could be part of the solution.

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King Salman Park

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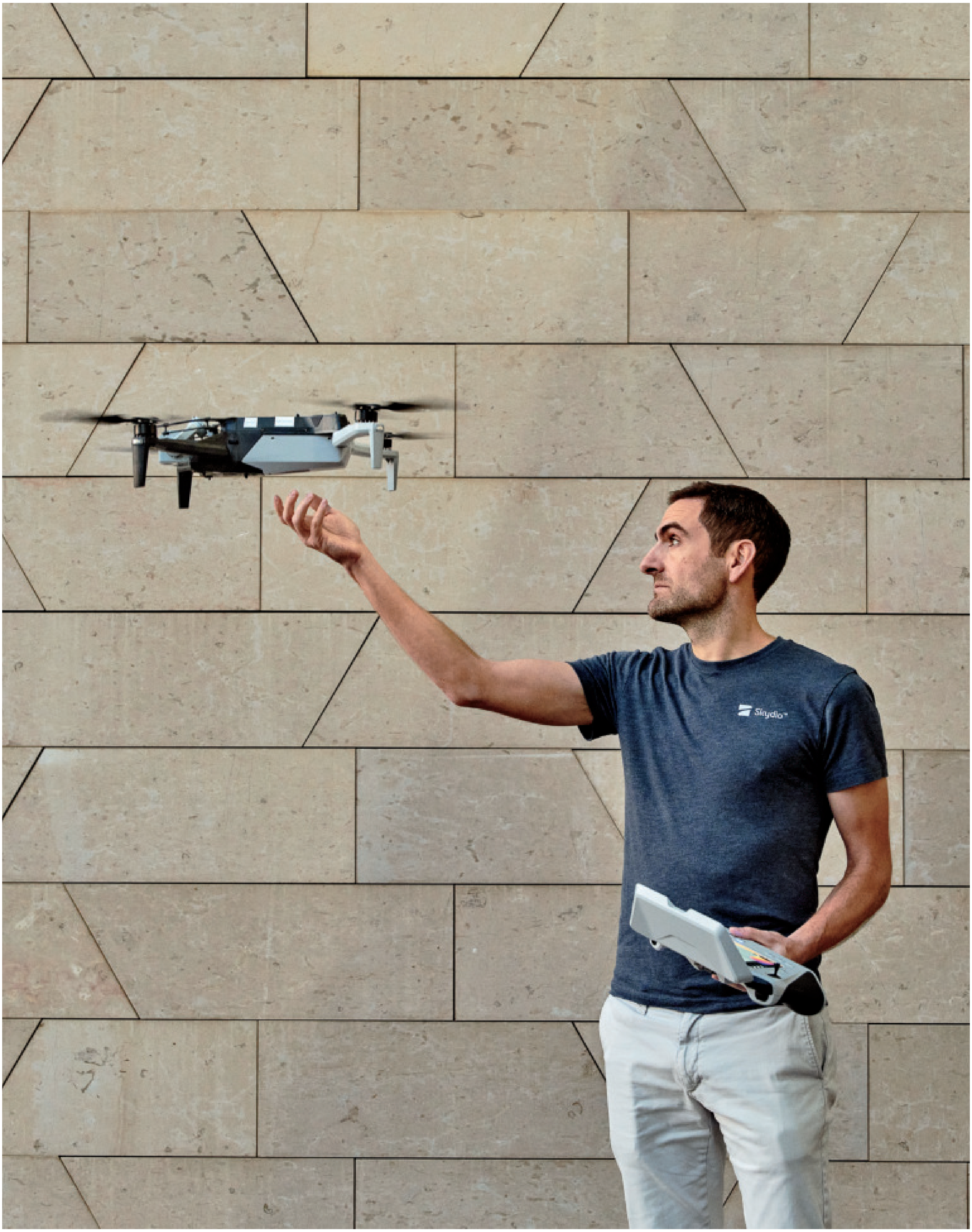

Skydio’s Adam Bry is building a US rival to China’s leading drone maker ▷ 58

■ PHOTOGRAPH BY PHILIP CHEUNG FOR BLOOMBERG BUSINESSWEEK

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Contributors

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● **Diane Coyle** is co-director of the Bennett Institute for Public Policy at the University of Cambridge. She’s the author of *The Measure of Progress: Counting What Really Matters*.

● **Julia Love** and **Davey Alba** are Bloomberg News reporters based in San Francisco and New York City, respectively. They spoke with almost two dozen people who have worked on Google Search and learned about many relics lurking in its code, including thousands of lines related to a vintage season of *American Idol*.

● Bloomberg News reporters **Christine Dobby** and **Ari Altstedter** are based in Toronto, and **David Voreacos** and **Tom Schoenberg** are based in New York and Washington, respectively, making their TD Bank story a cross-border collaboration.

● **Drake Bennett** is a Bloomberg News senior reporter who writes about science, technology and secrets. Reporting his drones feature, he attended the mandatory desert survival briefing at Marine Corps Air Ground Combat Center Twentynine Palms in California.

Cover

Bloomberg Businessweek
SEARCHING
FOR A NEW
GOOGLE

California-based photographer **Jessica Chou** played with the idea of “search” for this month’s cover subject, Google’s Elizabeth Reid. “Our plan was to create a dappled, spotlight effect—evoking the feeling of search and discovery,” Chou says.

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MANSIONS IN THE SKY

Life's Fine Details, Finessed

An exclusive oceanfront collection of 37 residences by Zaha Hadid Architects, sited on 200 feet of direct beachfront in Billionaire's Triangle—Miami's most revered enclave. Each private retreat is a culmination of masterful architectural vision, where sculptural curves frame sweeping ocean views and a translucent pool floats 125 feet high between sea and sky. Bespoke butler service is choreographed within the residences and throughout over 55,000 square feet of curated designer amenities.

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The Premature Death of DEI

● By Brad Stone

No company better illustrates the abrupt reversals and, as critics see it, the moral elasticity around DEI than Target Corp. After George Floyd was killed by police officers 4 miles from the company's Minneapolis headquarters in May 2020, the retailer wholly committed itself to the cause of diversity, equity and inclusion, announcing millions of dollars in donations to organizations supporting racial justice and social equity, and unveiling programs to increase its hiring of Black employees and spend more than $2 billion with Black-owned businesses. "I recognize it's time to take it to another level," Chief Executive Officer Brian Cornell said at the time.

But this year, Target changed course. Already buffeted by criticism for featuring LGBTQ pride-themed merchandise in its stores and then for capitulating to conservative groups by removing it, the company scaled back its DEI programs and suspended its minority-hiring goals and investments in minority-owned companies. A memo to employees from its chief community impact and equity officer cited the need to remain in step "with the evolving external landscape"–in other words, with the anti-DEI rhetoric and presidential orders pouring forth almost daily from the administration of Donald Trump.

Target is hardly alone when it comes to changing its tune on DEI. Since Jan. 21, when President Trump signed an executive order calling DEI "dangerous, demeaning and immoral," companies have treated it like a dietary fad suddenly found to pose mortal health risks. Among those pulling back: Alphabet and Charles Schwab removed DEI references from their annual reports, and McDonald's abandoned targets for diversity within its executive ranks. As part of its broader rightward shift, Meta Platforms Inc. ended programs to consider diverse candidates for open roles as well as all equity and inclusion training for employees, and Walmart Inc. said it would no longer consider race or gender when granting supplier contracts and would eliminate its use of the term "Latinx." Goldman Sachs Group Inc. scotched a program requiring the companies it guides through initial public offerings to have at least one female and two diverse board members, saying the policy had already served its purpose.

A few companies have defended their DEI practices, Costco Wholesale Corp. and Cisco Systems Inc. among them. Some are continuing the work they still deem important but are doing it more quietly and using different terminology, to better conform to Trump's edicts. But many others "are very aggressively saying, 'We didn't mean it,'" says Stacey Abrams, the former Georgia state representative and Democratic gubernatorial candidate. "That is moral cowardice. They are saying no to the very people who make their companies work."

The mass corporate retreat on DEI disrupts 60 years of attempts by the US government to stamp out exclusionary practices and expand opportunities for minorities and women in business. With Title VII of the Civil Rights Act of 1964, companies steeped in American traditions of racism and sexism were told they couldn't use race or gender to discriminate in employment. DEI, as it came to be known during the administration of Barack Obama and then broadly after Floyd's murder, was designed to fix more entrenched forms of unfairness, such as the stubbornly low percentage of female, Black and Hispanic executives. There's been only modest progress: Women accounted for 36% of senior executives in 2023, an increase of 5 percentage points from 2020, according to data submitted to the Equal Employment Opportunity Commission (EEOC) and analyzed by Bloomberg News. Gains for Black men were even slimmer; they accounted for only 3.2% in 2023, an increase of 0.33 percentage point.

For the past few years, right-wing activists and attorneys have argued that there are already existing laws against employment discrimination and that the effort to fix social disparities itself constitutes a form of discrimination and an unlawful attempt at social engineering. A 2023 Supreme Court ruling against Harvard College, which struck down affirmative action in universities and colleges across the US, supercharged their efforts. "If it was wrong to treat student applications differently because of race or ethnicity, then it must follow that it is wrong to treat any employee or job applicant differently," says Edward Blum, the Texas legal activist who brought the case. His group, the American Alliance for Equal Rights, is pressing the cause by suing American Airlines Group Inc., Southwest Airlines Co. and other companies over their DEI policies.

District courts are challenging Trump's executive orders, and DEI proponents are quick to point out that the law itself hasn't changed. Fighting discrimination, they say, is still perfectly legal. Still, the weather around DEI in the workplace has darkened significantly. Companies that earnestly devised mentorship or internship programs designed for minorities or women, for example, or that tied executive compensation to achieving diversity goals must now consider the possibility that those programs could be deemed illegal—and become targets for Republican-affiliated law firms or even Trump's Department of Justice. "I have talked to general counsels in companies who are freaked out about this," says John Yoo, a law professor at the University of California at Berkeley who advises companies on legal strategies.

Among proponents of DEI, the mood is almost funereal. There are more than 400 US government agencies and an average of two DEI specialists in each, says Douglas Melville, an author and DEI adviser. In late January the Trump administration announced plans to fire all of them. In C-suites the situation is similar. DEI has "become a scarlet letter for practitioners," Melville says. Workers who once felt seen and appreciated by their companies are wrestling with a sense of betrayal. "A lot of employees, particularly from underrepresented backgrounds, are feeling abandoned," says Joelle Emerson, CEO of Paradigm, which advises firms on diversity and inclusion strategies. "Companies seem to be saying they no longer care if you stay or go."

At the same time, there's recognition within the DEI community that it may be partly the victim of its own excesses. Companies that subjected employees to endless sensitivity trainings or internal debates over whether, say, the term "all-hands meeting" discriminates against those with disabilities may have simply exhausted their workers. Many never demonstrated how these issues were linked to their overall goals or how they might improve the prospects for their workers. Moreover, companies that went beyond trying to ensure a "diverse slate" of candidates for job openings and established specific targets for hiring from certain ethnic groups had, in effect, set up quota systems that are indeed illegal.

But by casting aside all of DEI, Trump and his fellow conservatives are purposefully hampering the pursuit of a more equitable workplace. The EEOC, the agency created in the 1960s to fight discrimination in business, collects data from companies with at least 100 employees on the racial and gender makeup of their workforces. Project 2025, the conservative Heritage Foundation's blueprint for Trump's second term, recommended scrapping these annual surveys, and in January the EEOC and its new Republican chairwoman announced they'd refocus the agency on fighting the immigration crisis and combating bias against American-born workers. If the EEOC stops collecting employment data, we'll no longer be able to define the scope of inequities in the US workforce, much less remedy them.

Conservative activists say that they're all for equity and fairness and that they're simply battling a divisive and ineffectual trend in corporate culture. "I want companies to be a place where anybody can go to work, somebody who's a socialist and somebody who's far right," says Robby Starbuck, who's organized social media campaigns to force John Deere, Tractor Supply, Walmart and other companies to drop their DEI initiatives. "This is saying to companies: Get out of that four-year cycle where you're a prisoner to politics and instead you're neutral."

For their part, DEI evangelists say that building fair and inclusive companies remains a noble and generally popular goal, even if there's disagreement about how to get there. And they argue there's a powerful trend on their side: In as little as 17 years, minorities will constitute a majority of the US population. Companies seeking to build and maintain a heterogeneous workforce that can appeal to a wide and varied base of customers will eventually have to acknowledge this.

"Pretty much all companies know that they can't go backwards if they want to be successful in the future," says Vernā Myers, who served as vice president for inclusion at Netflix Inc. until 2023 and is now a DEI consultant. If the companies that have truly abandoned the principles of DEI one day try to clamber back onto the bandwagon, the workers and customers who remember the current retreat may be too cynical to trust them. —*With Jeff Green*

■ ILLUSTRATION BY DEBORA SZPILMAN

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TURNING POINT

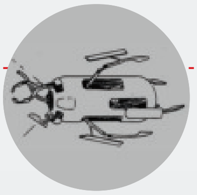
THE ROBOTICS OPPORTUNITY

What if we could use magnets to reach the deepest and most delicate parts of the human body, where no medical probe could go?

This is the challenge Pietro Valdastri, founder of Science and Technologies of Robotics in Medicine (STORM) Lab, finds himself drawn to.

FROM INSECTS TO MAGNETS

Valdastri's first foray dates back to his postdoctoral research, when working on a 12-legged capsule robot that could crawl inside the intestine to enable imaging and intervention. While this innovation received media attention, it was difficult to assemble and ran the risk of falling apart inside the body.



A sketch of the 12-legged capsule robot, initially designed for colonoscopy but soon deemed unfeasible in practice. Courtesy of Virgilio Mattoli

A NEW DIRECTION

Casting aside that initial idea, Valdastri's team began developing a more practical one: a robotic endoscope that uses magnetic fields to guide the endoscope without stretching the patient's tissue.

But the team soon encountered a significant setback. The magnetic endoscope was prone to losing magnetic coupling and ended up being three times slower than a conventional colonoscopy.

The realization that the technology needed to localize the magnet in real time coincided with Valdastri's move to Vanderbilt University in 2011.

LESSONS ON RESILIENCE

When setting up STORM Lab, Valdastri learned resilience the hard way. Of around 20 grant proposals, only one was funded. "While you cannot take no as an answer, listening to feedback is just as important," says Valdastri. "Every time you get feedback, you can improve."

A EUREKA MOMENT

After 12 years, and a move from Vanderbilt University to the University of Leeds along the way, STORM Lab's very first innovation finally entered human trials in October 2023.

These milestone robotic colonoscopies, which Valdastri describes as his proudest moment, were made possible through industry partnerships. The loan of an ISO-certified robotic arm from a German robotics manufacturer, for example, was crucial to STORM Lab's journey from bench trials to human trials.

A PIPELINE OF INNOVATION

Since settling at the University of Leeds, STORM Lab has focused on expanding beyond a single technology.

Magnetic vine robots, for instance, mimic the movement of creeping vines and have the potential to squeeze through the deepest parts of the lungs, beyond the reach of manual catheters. In the future, they could potentially diagnose and treat other life-threatening diseases, like brain tumors, without damaging the neurons in its path.

"The dream would be to have a continuous pipeline of innovation that gets to patients," says Valdastri.

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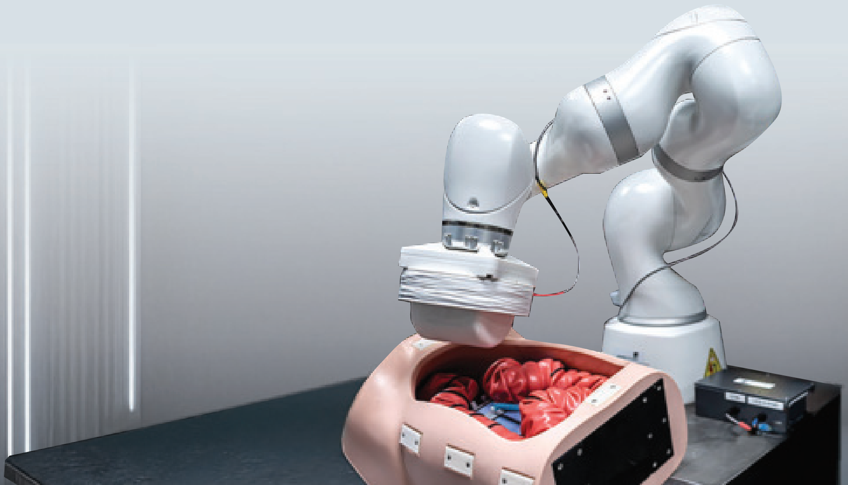
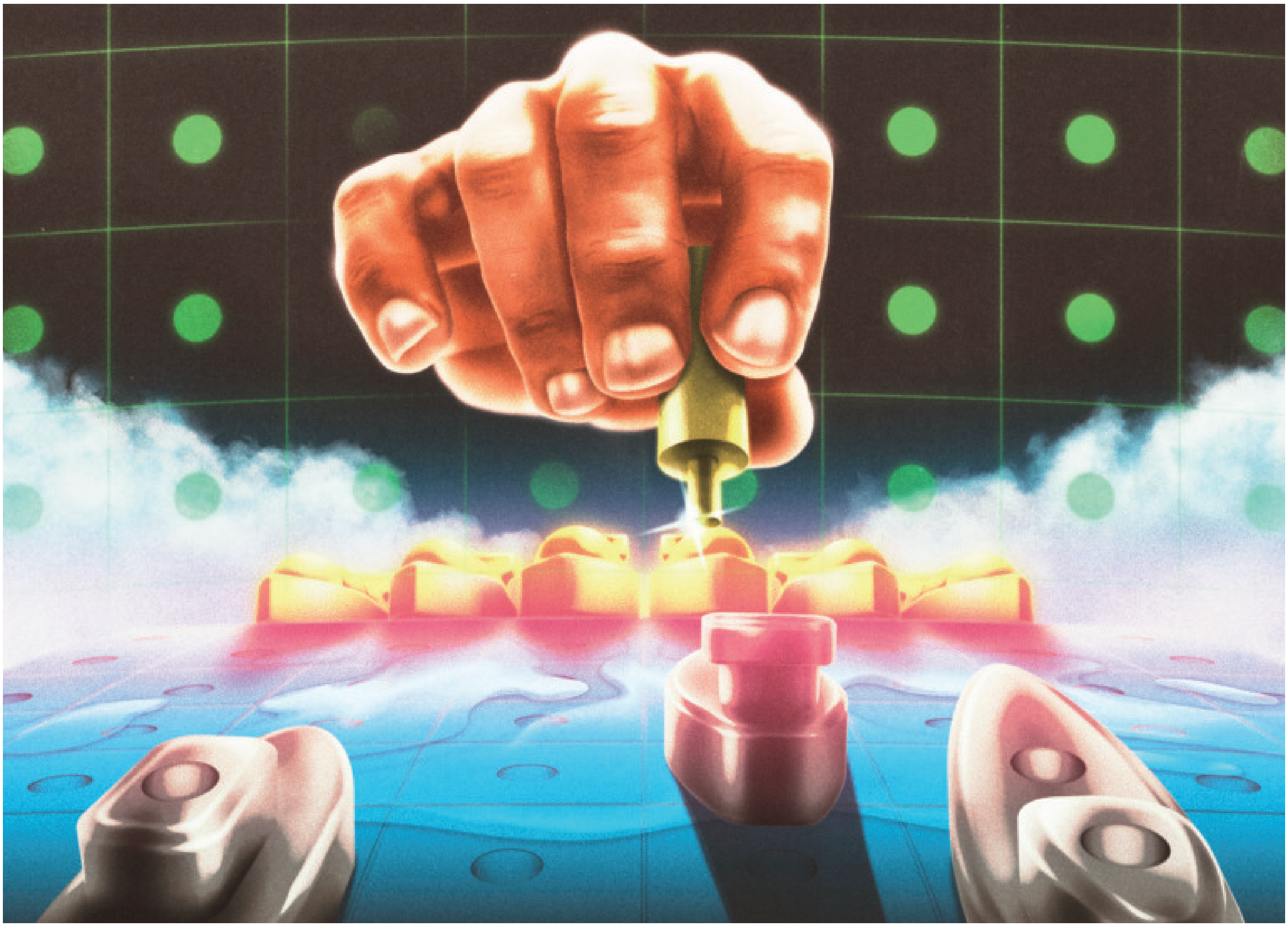


In Context

A new way to think about the world



The New Battleship Diplomacy

● By Kevin Crowley and Ruth Liao

Ripping up old alliances and turning the post-World War II axis on its head would have been impossible for any previous American president because of the US's insatiable thirst for imported energy. But the Trump White House is able to lean on an increasingly critical made-in-America commodity to exert new levels of geopolitical leverage: liquefied natural gas.

In the span of about seven years, the US transformed itself from an irrelevant supplier of LNG into the world's largest; now it's set to expand its production capacity by a further 60% before the end of Donald Trump's presidency, according to an estimate from BloombergNEF. By the end of the decade, almost 1 in every 3 tankers carrying the superchilled fuel will originate in the US, giving Trump his best chance to attain the energy dominance his campaign promised.

No matter what Trump does to alienate the US from its allies, his unorthodox moves aren't hurting demand for American-made natural gas. In the first weeks of his second term, he sought to broker a peace deal for Ukraine without key allies (or Ukraine), slapped tariffs on trade partners and pitched an outrageous idea to remake the Middle East. Leaders from Europe, India and Japan have responded with pledges to buy more American gas. "It's mind-blowing to think that the president of the United States doesn't have to worry about imported energy when negotiating for peace in the Middle East or on the European continent," says Amy Myers Jaffe, a professor at New York University who teaches about energy and climate finance. "You can lead those discussions from a position of power."

Trump frequently talks of his plans to ramp up America's production of "liquid gold," the fracked oil he accused President Joe Biden of holding back ▶

■ ILLUSTRATION BY NICO H. BRAUSCH

◀ out of concern about climate change. But US crude production will grow only about 2.9% this year as the shale industry waits to tap future drilling locations. The Permian, the country's biggest oil basin, could reach peak production as soon as 2028, the last full year of Trump's presidency, before plateauing, according to S&P Global. Likewise, Secretary of the Treasury Scott Bessent's pledge to increase oil production by 3 million barrels a day as part of his "3-3-3" plan to boost the economy–which also includes getting the fiscal deficit down to 3% of gross domestic product and sustaining growth at 3%–is likely to be achieved only if measured in barrels of so-called oil equivalent, which includes gas, says Raoul LeBlanc, an analyst at S&P Global.

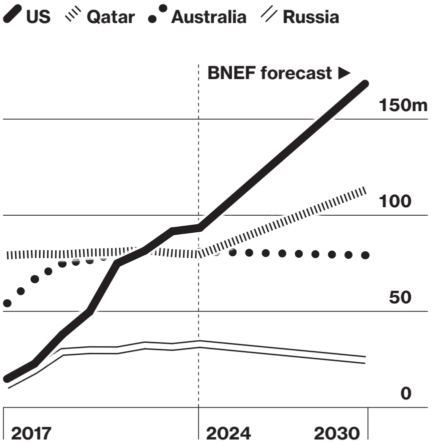
Oil "is probably not going to grow meaningfully in the short run," Energy Secretary Chris Wright said in an interview with Bloomberg Television in February. US gas production, on the other hand, is going to grow "dramatically" in the next two or three years, he said. Or, as Vice President JD Vance put it while on the campaign trail in Pennsylvania: "We're sitting on the Saudi Arabia of natural gas. We've just got to unleash that."

Twenty years ago, the idea that natural gas would play an even more important role than crude oil in US diplomatic calculations would have been preposterous. At the turn of the millennium, the US was short of gas. It generated less than 15% of the country's power, outflanked by nuclear and coal. Horizontal drilling and hydraulic fracturing, or fracking, which picked up in the early aughts, changed all that. The two techniques unlocked previously inaccessible oil and gas reserves from North Dakota to New Mexico. The US more than doubled its natural gas production, to more than 100 billion cubic feet per day, and it now fuels 41% of the country's electricity.

An LNG tanker in Tianjin, China

The US Takes the Lead

LNG exports in metric tons



In fact, shale gas supplies rose so quickly during the past 20 years that they far outpaced domestic demand, prompting a decade-long malaise in prices that hurt producer profits. The industry looked for more ways to deploy its gas, including by building plastics-making petrochemical plants along the Gulf Coast. But the Holy Grail is to export it, especially because international customers are willing to pay higher prices. Europe needs a long-term replacement for Russian supplies, Asia needs fuel for its fast-growing economies, and the developed world needs more energy to satisfy the demand from data centers powering artificial intelligence.

An expanding number of companies, including Cheniere Energy Inc. and Venture Global Inc., have raced to build multibillion-dollar liquefaction facilities to help them serve the overseas market. The complex plants can chill natural gas to -256F (-160C), transforming it into a liquid state that specialized ships then transport overseas, where it's regasified. Eight of these sites are already operating in the US, with three more under construction and the owners of several others close to deciding whether to move forward with final investment. Trump is also trying to breathe life into a long-stalled LNG project in Alaska.

Although no friend of the oil and gas industry, Biden advanced the LNG agenda set in Trump's first term after Russia invaded Ukraine in 2022. US supplies to Europe could replace the gas the continent piped in from Russia, helping to deprive President Vladimir Putin's "war machine," he said. The Netherlands, France and the UK quickly became the biggest buyers of American LNG. European Commission President Ursula von der Leyen praised Biden for being a "reliable" partner and said the trans-Atlantic relationship was "stronger and more united than ever."

Once seen as a transition fuel to help wean the world off coal as it moves toward clean renewables, natural gas has surprisingly endured. That could have dire consequences for combating climate change, which will require reductions in all fossil fuels, including natural gas, if the world is to reach net-zero emissions by 2050. "All the talk was that natural gas was a bridge fuel," says Mike Sommers, chief executive officer of the American

■ PHOTO: IMAGO/ZUMA PRESS ■ DATA: COMPILED BY BLOOMBERG

Petroleum Institute, which lobbies for the oil and gas industry. “It’s clear now that natural gas is the future fuel.”

US natural gas prices have averaged $3.55 per million British thermal units over the past five years, about 70% lower than the European average, providing the economy with a major competitive advantage and helping to underpin both Biden’s and Trump’s policies to bring US manufacturing back from overseas. “Energy is the foundation for every economy, so the fact that the US can supply itself cheaply and increasingly export to the rest of the world is a huge advantage,” says Arjun Murti, a partner at Veriten LLC, a Houston-based energy research and advisory firm.

The US gas industry’s meteoric growth hit a roadblock in the final year of Biden’s presidency, when his administration put a moratorium on new LNG export licenses while it scrutinized the effect on climate change. Trump lifted the pause on his first day in office, with no mention of the climate concerns that prompted Biden to halt approvals. (Also unmentioned was a phrase Trump’s previous Energy Department unsuccessfully tried to coin in 2019 to promote American LNG over supplies from Russia or the Middle East: “freedom gas.”)

The country’s expansion in gas production and exports stands in stark contrast to the state of the US oil industry. Although it’s the world’s largest, it doesn’t provide Trump with the geopolitical heft enjoyed by OPEC and its de facto leader, Saudi Arabia’s Mohammed bin Salman. America currently pumps about 13.5 million barrels a day, about 50% more than Saudi Arabia, but growth prospects are limited: Low oil prices force producers to reduce costs and preserve what’s left of their runway of future drilling locations. But if America’s natural gas industry continues to expand as expected, this slow growth may not matter.

Europe, for now dependent on the US for gas, has little room to maneuver. Even as Ukraine fumes over Trump’s apparent sympathy for Putin, its largest private energy company is in talks with US sellers over a two-year LNG supply contract. Under threat from major US tariff hikes, Indian Prime Minister Narendra Modi pledged to facilitate imports. Japan, South Korea and Taiwan are considering purchasing more American LNG to head off Trump’s tariffs and reduce their trade surplus with the world’s biggest economy.

The president’s strategy also carries the danger of pushing away some key buyers. China, last year’s biggest LNG importer, in February slapped retaliatory tariffs on American gas in response to additional US tariffs. And that’s not the only risk. With so many new US plants coming online, analysts expect the market to be oversupplied by the end of the decade, which could cause prices to drop. Even so, LNG is typically more expensive than coal and not as clean as renewables. And, as China has shown, both of these other fuel sources can often be produced domestically without having to rely on imports.

“No government wants to be dependent on import markets unless they have no choice,” says Myers Jaffe, the NYU professor. For the next two years or so, countries may have no choice, she says. “But we’re at such a transformative period for energy, 10 years from now there will be a choice. The window for US natural gas is not infinite.” Ⓑ
—With Stephen Stapczynski

Dealerships Fight Their Disruption

● By Keith Naughton

When second-generation car dealer Marc White learned a new Volkswagen AG electric-vehicle line was set to be produced in his home state of South Carolina, he hoped to be among the very first to start selling the cars. He approached the company, offering to build a $10 million showroom on a prime piece of local property at his own expense to showcase the models—and was turned down flat. That’s when White discovered VW plans to cut out the middlemen—like him—and sell its Scout Motors pickups and SUVs directly to consumers when they go on sale in 2027.

“They obviously feel like they can do it better, or maybe less expensive,” says White, 45. His family has been selling VW automobiles for more than 60 years, starting with Marc’s late father, Steve, under whose name the dealership group still operates; his teenage son, who only just got his driver’s license, is eager to sell cars there someday, too. So White is fighting back, testifying to the state legislature that allowing the direct-to-consumer sales could put the livelihoods of his 150 employees at risk.

For about as long as US drivers have been buying cars, they’ve been doing it through dealers, who distribute vehicles and allow in-person customers to do trade-ins, access financing and negotiate prices. But they also eat into carmakers’ profits, and some manufacturers are anxious to break free. Among the first to sell cars directly to consumers were then-upstart EV companies such as Tesla Inc., which famously built its own showrooms instead of establishing a dealer network. Now legacy automakers including VW and Honda Motor Co. are taking their first stab at direct sales with new EV brands like VW’s Scout line.

If successful, they could upend the new-car market in the US—and the long-entrenched dealership industry, which Cox Automotive Inc. estimates sold $627 billion worth of new vehicles to buyers last year. But automakers trying to sell straight to drivers face fierce resistance from dealers, who tend to be well financed, politically connected and protected by a thicket of state franchise laws that preserve their way of doing business.

“Dealers don’t want direct sales to happen, because they have no interest in letting that dam break,” says Alexander Edwards, president of San Diego-based Strategic Vision, which surveys consumers and consults with automakers. “They want to keep their money flowing.”

In South Carolina, direct-to-consumer auto sales aren’t actually legal, and an effort by the state legislature to change that has stalled following opposition from dealers, including White. Dealerships in ▶

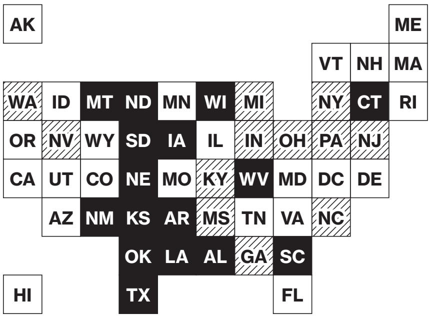
Where EVs Can Be Bought With a Click

Legality of direct-to-consumer EV sales

☐ Allowed for EV-only manufacturers

▨ Limited to certain manufacturers

■ Prohibited



◀ California and Florida have also taken legal action to block VW from pursuing direct sales of the new brand.

For now, Scout's reservation process looks much like that of any other consumer product. Car buyers can go online, select either its sport utility vehicle or truck, choose between an all-electric or a range-extending plug-in hybrid model, then fill in their credit card information to put down a $100 refundable deposit. But that only gives the consumer a place in line, because the actual purchase won't be completed until Scout models go on sale in two years.

"It should be that you can buy a vehicle in minutes on your sofa," says Cody Thacker, Scout's vice president for commercial operations. "It all should be as easy as buying a T-shirt on Amazon."

Buyers in California can also reserve online the new EV that Honda developed through a joint venture with electronics giant Sony Group Corp. ahead of its launch next year. Chief executive officer of the JV, Shugo Yamaguchi, described the purchase process as "a breeze without any hassle" in remarks at a January trade show.

Dealers usually make a percentage from each vehicle sold, and top-end models tend to draw prospective buyers into showrooms, so the decision to sell directly to consumers hurts even more on a pricey model. (Sony Honda Mobility's Afeela 1 Signature EV starts at $102,900.) "Honda should understand that any misguided attempt to bypass or undercut its US dealers will be challenged in statehouses and courthouses across the country," Mike Stanton, president of the National Automobile Dealers Association, said in a statement.

Dave Robinson, an executive at auto researcher Edmunds.com Inc. in Spokane, Washington, bought a Tesla Cybertruck last summer and relished the ease of the process and the transparent pricing from buying online. "I liked not having to spend half my Saturday in a dealership" and feeling like the salespeople were talking "to the Wizard of Oz behind the curtain while I'm waiting in the finance office," the 44-year-old says. "Never again am I setting foot in a dealership."

Of course, not everyone wants to buy a car without a visit to the dealership. Before a major outlay, many shoppers want to kick the tires and take test drives, which is why Scout is planning to open 25 locations in 16 major markets when it premieres in two years. But don't call them dealerships: Some will be showrooms in malls, as Tesla has opened, while others will be standalone Scout "workshops" with show floors up front and service bays in the back. Scout workshops will look a little like a dealership, but customers will finish the transaction online.

Although these kinds of changes require some investments, they also eliminate the cost of franchised dealers, allowing for greater profits. Tesla's direct sales let it earn an extra $2,000 to $4,000 per automobile, car industry executives have estimated. Dealers, for their part, have been trying to make the buying process less painful by digitizing parts of it, including allowing for price negotiation via text or online chat. Still, car salespeople consistently rank among the bottom of Americans' most trusted occupations, alongside lobbyists and members of Congress. "Car dealers are not all bad. We do bring some value to the table," says White, the South Carolina dealer.

Scout and Sony Honda have tried to get around franchise laws requiring automakers to sell through their dealers by establishing themselves as independent entities within their parent companies. Scout doesn't fall under Volkswagen Group of America, the arm that contracts with US dealerships; it's positioned instead beneath the wider Volkswagen umbrella company, so it could be treated like any other of its hundreds of legal entities, which include the luxury Porsche and Lamborghini brands. "You don't see Volkswagen dealers selling Porsches or Porsche dealers selling Lamborghinis," says Scout's Thacker. Dealers don't have "an unassailable right to another brand and another model of vehicle."

That's not how VW and Audi dealers in Florida see it. They sued Scout in February to prevent the brand from selling directly to consumers in their state. Florida car dealers had their legislature update the state's automotive franchise laws in 2023 to prevent this very thing. The new law says that if an auto manufacturer owns or controls more than 30% of an entity, it's required to sell through franchised dealers. Scout is wholly owned by Volkswagen.

Meanwhile, drivers report they're increasingly open to purchasing online. Still, only about 5% actually click "buy," a January survey from Cox found. That might be because of limited buying options to date or because a car is more of a big-ticket purchase that consumers make only occasionally and so they don't mind taking it a little more slowly.

"People say that they want to buy a car with one click," says Erin Keating, a senior director of economic and industry insights at Cox. But "the minute they get into monthly payments of $500 or more and you're spending $50,000 on something, the quicker you see them saying, 'I might actually want to talk to someone.'"

—*With Chester Dawson and Kara Carlson*

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● The Right Stuff

● By the Pursuits editors

Spring is all about a fresh start—for you and your face

▼ Botox's BFF

Neurotoxin injections reign supreme as the most popular form of cosmetic procedure, and this cream aims to amplify them. The SkinCeuticals P-TIOX serum ($148 for 1 ounce) was formulated to both complement injections—helping skin heal and extending results—and reduce expression lines, using peptides, polyhydroxy acid, niacinamide and laminaria extract derived from brown seaweed.

▼ A Potent Wrinkle Fighter

Skin-care obsessives know retinol is the gold-standard ingredient in addressing the signs of aging. Founded by a dermatological surgeon, Eighth Day recently introduced its Night Cream Treatment with RetinalXR ($450 for 1.7 oz), a proprietary ingredient designed to be 250% more potent than typical over-the-counter standbys. The cream formula is deeply hydrating, helping ward off the irritation strong retinol serums can cause.

◀ The Little Orange Box Of Lipsticks

Hermès' new line of lipsticks offers 14 sheer, buildable shades perfect for welcoming the warmer months. (The range, known as Rouge Brilliant Silky, is inspired by the maison's timeless silk scarves and starts at $77.) A slim refillable vessel, by the brand's jewelry designer, Pierre Hardy, will hold pride of place on any vanity.

As *SNL* would say, little red glasses are the zest in the orange!

▶ The Best Offense Is a Good Defense

Mineral sunscreens are many dermatologists' first choice, as they create a physical rather than chemical barrier. Developed for the most sensitive skin, EltaMD's latest, the UV Skin Recovery broad-spectrum SPF 50 face sunscreen ($50 for 1.7 oz), combines zinc oxide with amino acids and ceramides to hydrate and soothe redness without leaving a whitish cast.

▲ Erase Under-Eye Issues

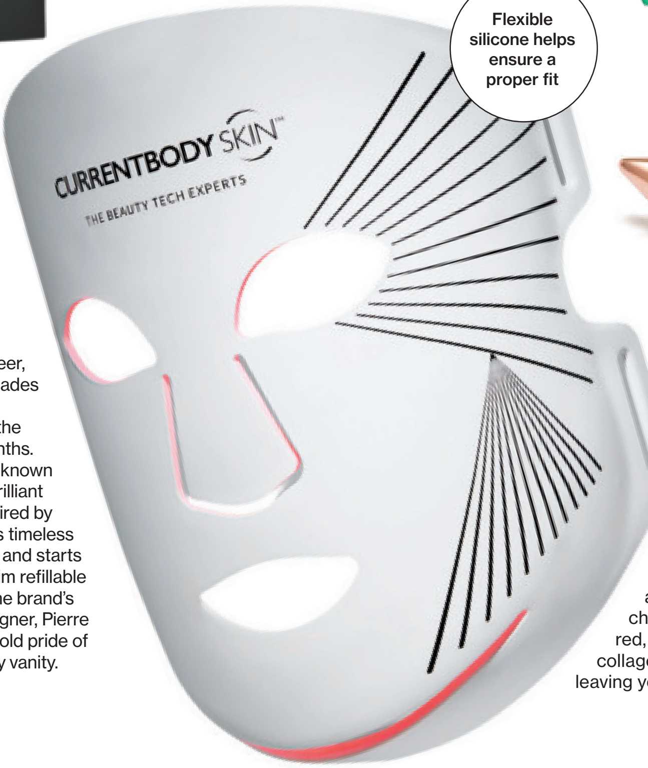
From Dennis Gross, a dermatologist who developed a cult following for his youth-boosting Alpha Beta daily exfoliating pads, a new DermInfusions Fill + Repair eye cream ($64 for 0.5 oz) will brighten your perspective for spring. Kakadu plum and caffeine, plus two weights of hyaluronic acid, plump deep tear troughs and tighten the skin, combating dark circles and fine wrinkles in the process.

◀ Red-Hot Shades

New Orleans-based eyewear brand Krewe can't help but take inspiration from its hometown: Its STL family of designs is inspired by the cast-iron balconies of the French Quarter. The $365 STL Nylon in new Cherry 18K features festive red frames accented with gold hardware and edge-to-edge nylon lenses.

◀ An Instant Root Touch-Up

Want to make a good hair day stretch into tomorrow? Dry shampoo is the ticket. Briogeo's $28 Style + Treat dry shampoo puff has a trifecta of benefits: finely milled starches to sop up post-workout and multiday grease buildup; a touch of color (from medium blond to dark brunette) to hide grays; and a nifty application sponge to help add texture and conceal thinning areas. The fizzy citrus scent is a bonus.



Flexible silicone helps ensure a proper fit

◀ A Bit of Edge for Your Ear

Fashion's love of logomania is in a perpetual state of ebb and flow, but Prada's $825 triangle motif earring lets you have it both ways. This single rose gold stud is a subtle yet utterly elegant little lobe embellishment—unisex, understated and luxe. "Oh, this?" it whispers. "It's Prada."

◀ Scare Your Family (And Heal Yourself)

At-home red-light devices such as the CurrentBody Skin's Series 2 LED therapy face mask have been shown to visibly improve texture and tone. You have to be diligent, using it three to five times a week for at least 10 minutes; thankfully this new model, which retails for $469, has additional straps for extra comfort. It also covers the chin and features 236 bulbs with three wavelengths—red, near-infrared and deep near-infrared—to boost collagen production (and frighten others in your home into leaving you alone for some blissful peace and quiet).

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A Space Station Moon Shot

● By Kiel Porter and Loren Grush

Jed McCaleb, the billionaire behind the infamous Mt. Gox Bitcoin exchange and the cryptocurrency XRP, is the sole financial backer of a wildly ambitious effort to build the world's first commercial space station and send it into orbit.

If he succeeds, his startup, Vast Space LLC, will be well-positioned to win a lucrative contract from NASA next year—potentially worth billions of dollars—to replace the International Space Station. If it's a bust, McCaleb says, he's prepared to lose $1 billion of his fortune. McCaleb controls billions partly via two foundations, which reported a total of $3.3 billion in assets at the end of 2023, funded by his own donations.

"It's super important that people take this leap from where we are today to this potential world where there's a lot of people living off the Earth," says McCaleb, 50, at the company's headquarters in Long Beach, California. "There's not that many folks that are willing to dedicate the amount of resources and time and risk tolerance that I am."

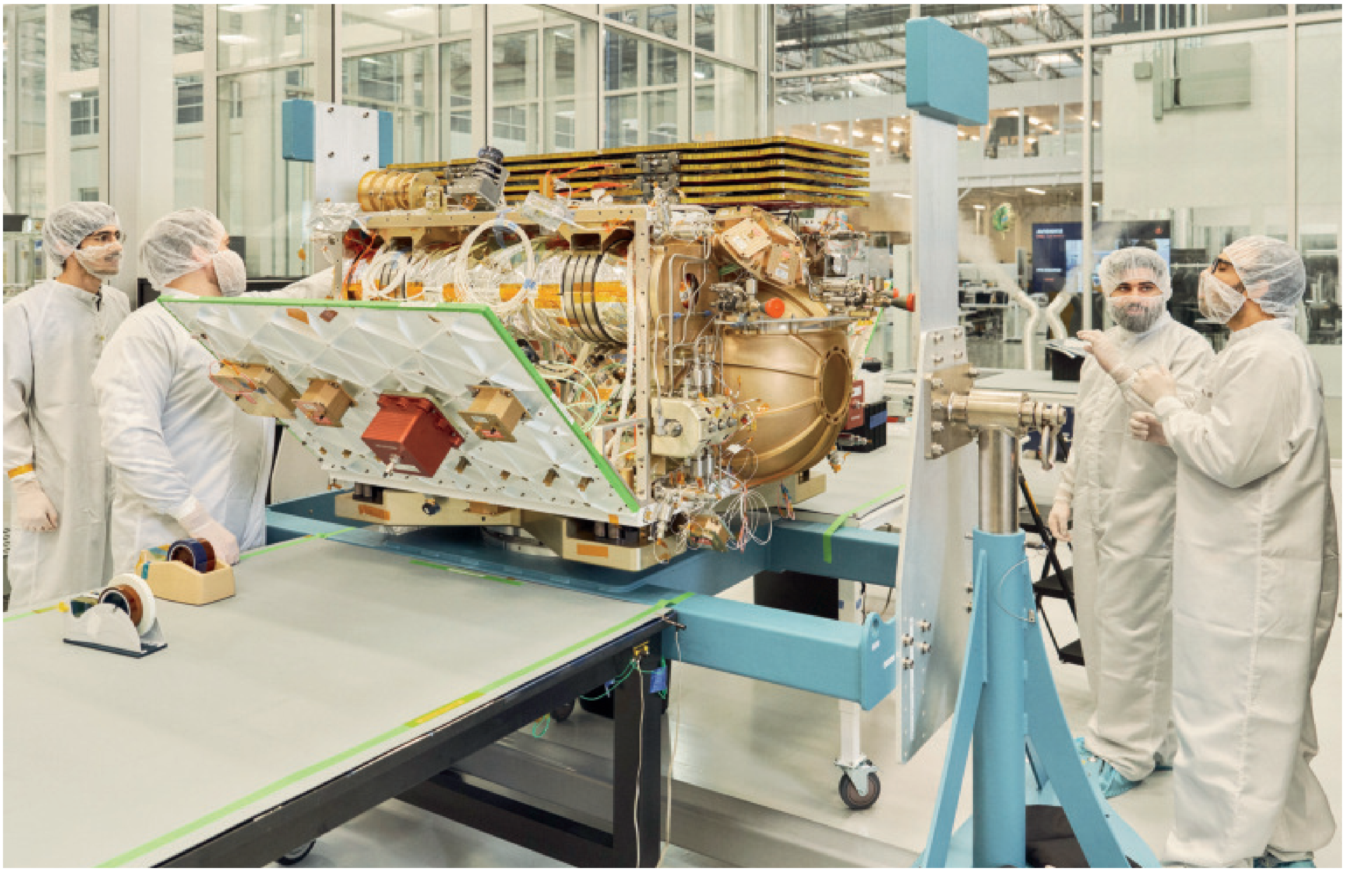
He's hired an industry veteran as chief executive officer, and SpaceX is lending Vast some of its technology while Elon Musk urges the US to speed up the timeline for decommissioning the ISS, currently expected to be retired by the end of 2030. Vast, founded in 2021, is assembling its craft partly with components that SpaceX developed, notably a docking adapter to connect SpaceX's Dragon capsule to Vast's station and an in-space internet system that will provide Wi-Fi via Starlink. Vast has already booked SpaceX flights to send its hardware into orbit and deliver crew, and SpaceX has agreed to carry astronauts for Vast, as long as NASA gives its go-ahead.

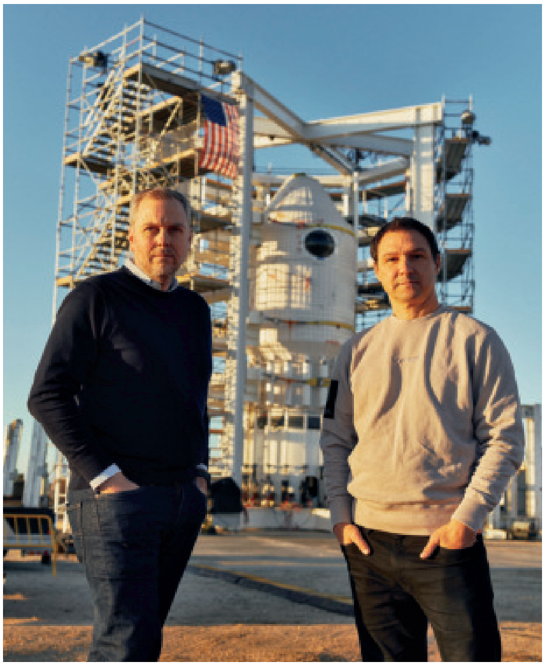
But the task is nonetheless daunting, and there's little in McCaleb's biography that makes clear he's the person to take it on. The Arkansas farm boy and University of California at Berkeley dropout has no background in the industry. His career has been marked by a pattern of getting in on the ground floor of emerging technologies, then pivoting before government regulation and other headwinds upend the businesses—not exactly the kind of long-term focus that seems a prerequisite for winning a high-stakes competition to create a technological marvel.

Sam Yagan, a friend of McCaleb's who founded an online file-sharing business with him more than two decades ago, says the entrepreneur is a deliberate risk-taker. "He's hyperrational about these things," says Yagan, the co-founder and managing director of Corazon Capital. "But he's maybe slightly eccentric in his willingness to take what you and I would see as a lot of risks."

Many of Vast's personnel have previously worked at SpaceX. And at the company's headquarters, the parking lot is brimming with cars from another Musk

Engineers work on a demo in Long Beach, California, ahead of the Haven-1 launch




McCaleb and Haot at Vast's test facility

■ PHOTOGRAPH BY BALAZS GARDI FOR BLOOMBERG BUSINESSWEEK

company, Tesla Inc. One of those vehicles, a Cybertruck, belongs to Max Haot, who came on board in 2023 when McCaleb bought his company. Haot has since become Vast's CEO, allowing McCaleb to fly in from his home in San Francisco once a week to monitor progress.

Prior to the acquisition, Haot was trying to follow in Musk's footsteps by creating another rocket launch startup, Launcher. Haot met McCaleb in 2022 as he was looking for an investor. McCaleb offered a takeover instead, with the understanding that Haot would come on as Vast's president and eventually become its CEO.

Beyond building the first private space station, the company also wants to develop a system for creating artificial gravity that would replicate Earth's conditions. It would involve taking advantage of centrifugal force with massive rotating modules in space. It's an enticing proposition, because years of humans living on the ISS have shown that long-term stays in microgravity can damage various biological systems.

First, Vast needs to get its initial station in orbit. It's quickly built up its staff to 740—from technical engineers to a spacesuit fabricator—from fewer than 200 less than a year ago. The headquarters of the company operates around the clock, with engineers and construction crews working on alternating shifts to either expand its Long Beach facility or build its first prototype space station, named Haven-1.

Space stations are a staple of pop culture—think of the Death Star from *Star Wars* and the titular space station in the Star Trek series *Deep Space Nine*—but they've also been a critical component of US space exploration since 1973, when astronauts first boarded the experimental Skylab station. Decades later, as the Cold War thawed, NASA teamed up with Russia and other nations to build the larger ISS. Since November 2000 there's always been at least one human on board.

Haven-1, roughly 33 feet tall and 14.5 feet wide, is meant to fit snugly inside the nose cone of a SpaceX Falcon 9 rocket. It will be equipped with personal sleeping quarters, a large window and a communal table for a four-person crew.

In January the company began construction on Haven-1, with a proposed launch date of May 2026, pushed back from an original goal of as early as August this year. The company recently tested a prototype to confirm that the structure could withstand the internal atmospheric pressure, and it's working on power systems, propulsion and other components for crewed missions. Haven-1's outer shell must be able to endure the harsh environment and temperatures of space while also containing the pressures and atmospheric gases people are accustomed to on Earth.

"Right now we are not a space station company," says Haot. "We are an aspiring space station company."

Once Haven-1 is launched, assuming things go according to plan, Vast will then send to space a crew of four astronauts in a Falcon 9 rocket to dock with the station. If the launch proves successful, Vast's plan is to then send the first module of its next station, Haven-2, by 2028. It will form the beginning piece for a much larger base that's designed to serve as a replacement for NASA's ISS.

The ISS employs a regenerative setup that recycles wastewater into potable water and carbon dioxide into oxygen. Such a system is needed if passengers are going to stay long term on any platform. Haven-1 won't have one because crews are expected to stay for short visits, but Vast plans to eventually have one for Haven-2.

Competitors including Axiom Space, Blue Origin and Voyager Space Holdings are vying to make their own stations, but one advantage Vast has is McCaleb's willingness to spend so much on the venture. "Vast is the only one that's coming up with a solution that is primarily self-funded and ready to go," says Chad Anderson, founder and managing partner of Space Capital, an investment company focused on the industry. (He doesn't have any financial connections to Vast but is invested in SpaceX.) Those competitors, despite their space pedigree and some launch contracts, also don't have such a close partnership with SpaceX.

McCaleb is keen to downplay any personal relationship, saying he's met Musk "a couple of times—he probably wouldn't remember me," despite both men having also invested in OpenAI. Although they differ in approach and demeanor, their respective interests and unconventional rise to riches share multiple parallels: Both dropped out of school (Musk at a later stage) to start software businesses in emerging fields (Musk, online directories; McCaleb, video streaming), and both parlayed a love of fantasy and games into financial success.

McCaleb's initial venture, eDonkey, was one of the first file-sharing services on the internet—an early competitor to Napster that launched in 2000. McCaleb's next success was Mt. Gox, one of the world's earliest Bitcoin trading platforms. The site, which McCaleb founded in 2010, grew rapidly before the entrepreneur sold a majority stake a year later for an undisclosed sum. In February 2014, the exchange collapsed into bankruptcy, with users losing coins then valued at more than $400 million. McCaleb faced ▶

◀ no sanctions and said he, too, had lost money in the collapse.

By then, McCaleb had already started his next idea: XRP, the cryptocurrency trading on the Ripple protocol, which he also co-controlled. McCaleb owned 9% of the coins at the outset. Following disagreements with his co-founders, McCaleb left the company in 2013 but kept his currency, which he sold down over the following years. The value of XRP surged during the crypto mania of late 2017, eventually swelling the market cap to $130 billion in January 2018.

"He's one of the top 10 most important crypto founders, even though nobody really knows him," says Nic Carter, founding partner of Castle Island Ventures, an investment company focused on public blockchains.

McCaleb keeps his circle close, working with Yagan and other long-standing collaborators. In the space industry, McCaleb provides a steady source of investment in an often volatile sector, where once-high-flying startups routinely collapse in failure while starved for capital. And despite a lawsuit from a former employee alleging that Vast tried to cut corners, the company—which disputes the suit's claims—doesn't seem to come with some of the baggage of SpaceX: Its billionaire CEO is largely home with his wife and three children instead of trying to reshape the federal government.

Should McCaleb's venture prove a success, Vast has booked multiple crewed missions with SpaceX to launch private astronauts into orbit, and both McCaleb and Haot say they're willing to board flights themselves. But the whole thing hinges first on Vast's ability to win the final contracts for the NASA program intended to jump-start the commercial space stations that could replace the ISS. The program comes with a soft guarantee that NASA will buy time and space on any stations that make it into orbit, serving as a steady source of revenue. Contracts are expected to be handed out in mid-2026.

Without the NASA contract, the commercial viability of any space station is doubtful, Haot says. "It's a matter of existence for us to win that competition." Ⓑ —*With Dylan Sloan*

● Five Questions

● By Sonali Basak

Vlad Tenev, CEO of investing app Robinhood, on AI, crypto and why he's bullish on Trump

➊ What's the biggest impact the Trump administration will have on the stock market?

Their intent appears to be to ensure that the US is the best place to do business and the leader in both of the emergent technology industries coming to the fore: crypto and AI. They've got smart people thinking through these problems, and so we should expect the bureaucracy to be reduced, more regulatory clarity and hopefully tighter integration with the private sector to make it happen.

➋ Do you think there's a point when the crypto markets get bigger than stocks?

If we play this well, they will merge. So, I like to think about crypto less as a distinct, tradable asset and more as a new technology—so, along the chain of filing cabinet and pen and paper, to mainframes. If you've got a tradable token on all blockchains, and it's liquid, that's essentially an IPO.

➌ Robinhood now offers prediction markets on the app, so someone can bet on the outcome of an election. Do you see a distinction between how people invest in stocks and how they bet on sports?

I do. Unlike a typical betting platform, where the platform makes the odds, the prices in prediction markets are governed by a transparent, regulated exchange. And what that allows is better price discovery.

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Just like how we're looking at stock markets today and making assessments for which way the tariffs are going to go, what the impact is going to be on the economy, prediction markets are a way to distill all the information and [illegible]

➍ You have a personal investment in an AI startup called Harmonic. The idea is to create mathematical superintelligence. What is that ultimately going to do?

If you become superhuman at math, you essentially become superhuman across any quantitative domain—physics, biology, chemistry—and then you start making serious progress on problems like energy generation, longevity, fundamental physics.

➎ Where is AI going to have the biggest impact on markets?

You're already seeing a huge impact. A lot of the AI investment interest is concentrated on Nvidia. It's become the No.1-held stock on Robinhood, surpassing Tesla, which is another AI stock in its own right. I think AI is going to make investing more important, because if control over the technology is going to be centralized in the technology companies, then you have to be an investor in those companies to benefit.

This interview has been edited for clarity and length.

■ PHOTOGRAPH BY TIMOTHY MULCARE FOR BLOOMBERG BUSINESSWEEK

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China Goes to the Dogs (and Cats)

● By Karoline Kan

When China relaxed its one-child policy a decade ago, makers of baby food and infant formula began plowing billions of yuan into new brands, products and factories, with investment in the industry surging by almost a third in 2016. But any hope of a baby boom proved fleeting as young Chinese these days appear to prefer dogs and cats to kids. "Pets can fill emotional needs that people don't," says Hu Weihua, owner of an animal hospital in Shenzhen, just north of Hong Kong. "Younger generations see them as family, unlike the traditional notion that dogs and cats are just beasts."

China's population has fallen for three straight years, and the marriage rate plunged by a fifth in 2024, reaching its lowest level in almost a half-century. With fewer babies, China's formula market dropped 21% from 2021 to 2024. Pets, meanwhile, are on track to outnumber toddlers almost 2 to 1 by 2030, Goldman Sachs Group Inc. predicts. Infant formula companies, says Macquarie Group Ltd. analyst Linda Huang, "need a way out."

For many formula and baby food producers, the escape hatch has been a shift to pet products. Yili Group, China's biggest dairy company (and a leader in formula), added a pet food brand 18 months ago. China Mengniu Dairy Co., the No. 2 dairy producer, has invested in an operator of veterinary clinics. Beingmate Co., after watching its formula sales drop in three of the past five years, established a subsidiary in 2024 selling pet food "that meets the standard for babies."

With China's pet economy on track to increase almost 40%, to 352 billion yuan ($49 billion), by 2030, according to Bloomberg Intelligence, international investors see an opportunity. Singapore private equity shop Hillhouse Investment Management Ltd. has pumped more than $1 billion into 100-plus pet-related companies in China. Private equity firms Advent International and Boyu Capital last year paid $140 million for a 46% stake in foodmaker Shandong Seek Pet Products. And Pet'em, a Beijing company with more than 200 pet-grooming shops across China, has raised at least $55 million in several rounds of financing. "People want to offer their pets the best of everything, hoping they'll stay healthier and live longer," says Eva Xu, co-owner of Pet&Fresh, a pet food store in Shanghai that opened in February and aims to have 100 outlets by yearend.

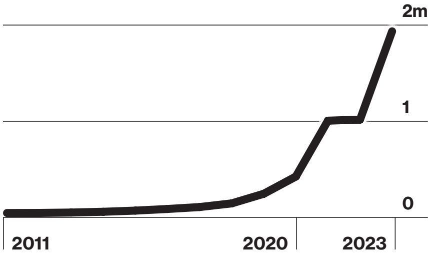
Millions of Chinese adopted pets during the pandemic, and an industry has sprung up to pamper them. The country has 4.7 million pet-related companies, up by almost half in the past year. Kennels—which many proprietors prefer to call "day care"—have doubled, to more than 32,000. There are now 38,000 pet food stores, up by two-thirds. And the number of vet clinics has jumped by 60%, to 731,000. "People who come to my office never hesitate to spend money on their pets," says Jin Rishan, an animal acupuncturist in Shanghai. "I'm busy—too busy—every day."

A potential brake on growth is China's lack of regulations for animal products. Companies face few consequences for selling low-quality, fake or even toxic wares. State television last year broadcast a segment from Xingtai, a northern Chinese city where the bulk of the country's pet food is made. The report included allegations that producers use inferior grains and meat that are dangerous for animals, and one factory owner said that "the only thing written on the packaging that's true is the weight."

In August the Shanghai Consumers Association analyzed dozens of pet food brands and found that the protein content in five of them was more than a quarter lower than advertised, and several brands had excessive bacteria, with one containing 280 times the level considered safe for pets. "We should have some regulation," says Li Fengting, who oversees the China business of H&H Group, a Hong Kong company that's shifting to pet food

Animal Spirits

Pet-oriented companies started in China annually



■ PHOTOGRAPHS BY KA XIAOXI FOR BLOOMBERG BUSINESSWEEK ■ DATA: IRESEARCH CONSULTING GROUP

Clockwise from far left: Jin giving an acupuncture treatment at his clinic; customers and their humans at Pet&Fresh; Jin with another patient; AtHomeHub's "school bus"

FURRY KIDS DAYCARE
DOG SCHOOL BUS

as its formula business falters. "Pet owners' trust is fragile, and if that trust collapses, it damages the entire industry."

Another concern is the prospect of tighter state control on pet ownership. Some cities and towns have started to require licenses and immunizations for pets, and there's fear that if such rules were to spread nationwide, fewer people would choose to adopt a furry friend. "Stricter regulations could raise the hidden costs of owning a pet," says Cecilia Yu, who lives in Beijing with her six cats.

So far those considerations have had little effect on the growing pet economy. There are more than 6,000 pet funeral homes, which charge up to $1,500 for embalming, chanting monks, cremation and psychics who purport to communicate with the spirits of the dead animals. A pet travel agency in Shanghai organizes trips for animals and their humans, in one instance chartering flights for a nine-day visit to Thailand.

In Shanghai's Minhang district, a canine "kindergarten" called AtHomeHub dispatches a "school bus" every morning to pick up a dozen pups across the city. The dogs must be "interviewed" to ensure they fit in, and owners can check on them via a livestreaming link. A typical day at the center includes games, snacks, naps and "afternoon tea"—which is basically more snacks but hidden inside toys in a maze. "We want to provide a real day-care center, just like one for human toddlers," says Ciel Chen, the salon's co-owner. But at more than 500 yuan per day when services such as training are included, the cost isn't the same as it is for children. It's more. Ⓑ

● Austin Carr

■ PHOTOGRAPH BY JESSICA CHOU FOR BLOOMBERG BUSINESSWEEK

Evan Spiegel still sees a bright future for Snap's computerized sunglasses

Evan Spiegel sees something others don't: a neon-red flag, digitally projected on the lenses of the augmented-reality glasses he's wearing. The co-founder and chief executive officer of Snap Inc. is at Clover Park, next to the company's headquarters in Santa Monica, California, sporting the new Snap Spectacles. Spiegel was originally supposed to demo a basic chess app, but he decides instead that he wants to challenge me to a game of capture the flag.

He guides me through the process, telling me to tap a button that appears through my own Spectacles lenses on my hand—visible to me, invisible to others—and then, from the menu now floating before my eyes, to select the app by pinching the air. We stake our 3D flags near a tree and a picnic table, set up rival bases and prepare to sprint around, using our palms to fire blasts of light at each other.

Or that was the idea, at least. This particular game was made by a third-party developer and is a bit more complicated to run than the chess simulator. On this hot February morning, our Spectacles are having connectivity issues outside. Spiegel switches to other still-in-development apps, called "Lenses," including one that immerses us in a medieval village. Another Lens, from Niantic Inc.—the studio originally behind *Pokémon Go*—has us feeding snacks to cartoonish pets. The visuals are pretty stunning despite the continuing technical glitches. "Do you see my green animal?" Spiegel asks with a laugh. "This is what I get for going off script."

Going off script has become a habit lately for Spiegel, whose social media app Snapchat has been known for its inventiveness since arriving on the scene in 2011. With 850 million monthly active users, Snapchat could likely satisfy lots of shareholders by focusing solely on stealing more Generation Z eyeballs from TikTok and boosting its roughly $5 billion advertising business on smartphones. But Spiegel has been obsessed with wearable devices and AR for a decade, convinced they represent the future of mobile computing—and he believes he's found a sweet spot in the market between the less capable Ray-Ban Meta sunglasses and Apple Inc.'s $3,500 Vision Pro.

Wearing a display on your face can be, according to Spiegel, a way to pull people back into the physical world. He says AR liberates us from having to yank out our phones all the time. "You take computing from something that has been largely single player and make it something that's fundamentally a shared experience," Spiegel says.

The mission is personal for Spiegel, who's a dad to four boys. These days he and his wife, the model Miranda Kerr, are used to finding their 14-year-old hanging out with friends, each glued to their phone, or seeing them at school, each glued to their laptop. It's probably too late to convert them to an electronics-free life—Spiegel surely helped let that genie out of the bottle—but he's hopeful AR will give them more excuses to interact with one another. "I would love for our kids to want to use these glasses more—like, 'Hey, guys, why don't you go spend time playing outside on your glasses?'" he says, pointing to a nearby baseball field.

The first version of Spectacles was released in 2016, when Spiegel, now 34, was practically a kid himself. Painted in an array of bright colors, the sunglasses featured a large camera lens at the corner that could capture short videos for sharing on Snapchat. They were designed to be quirky and playful.

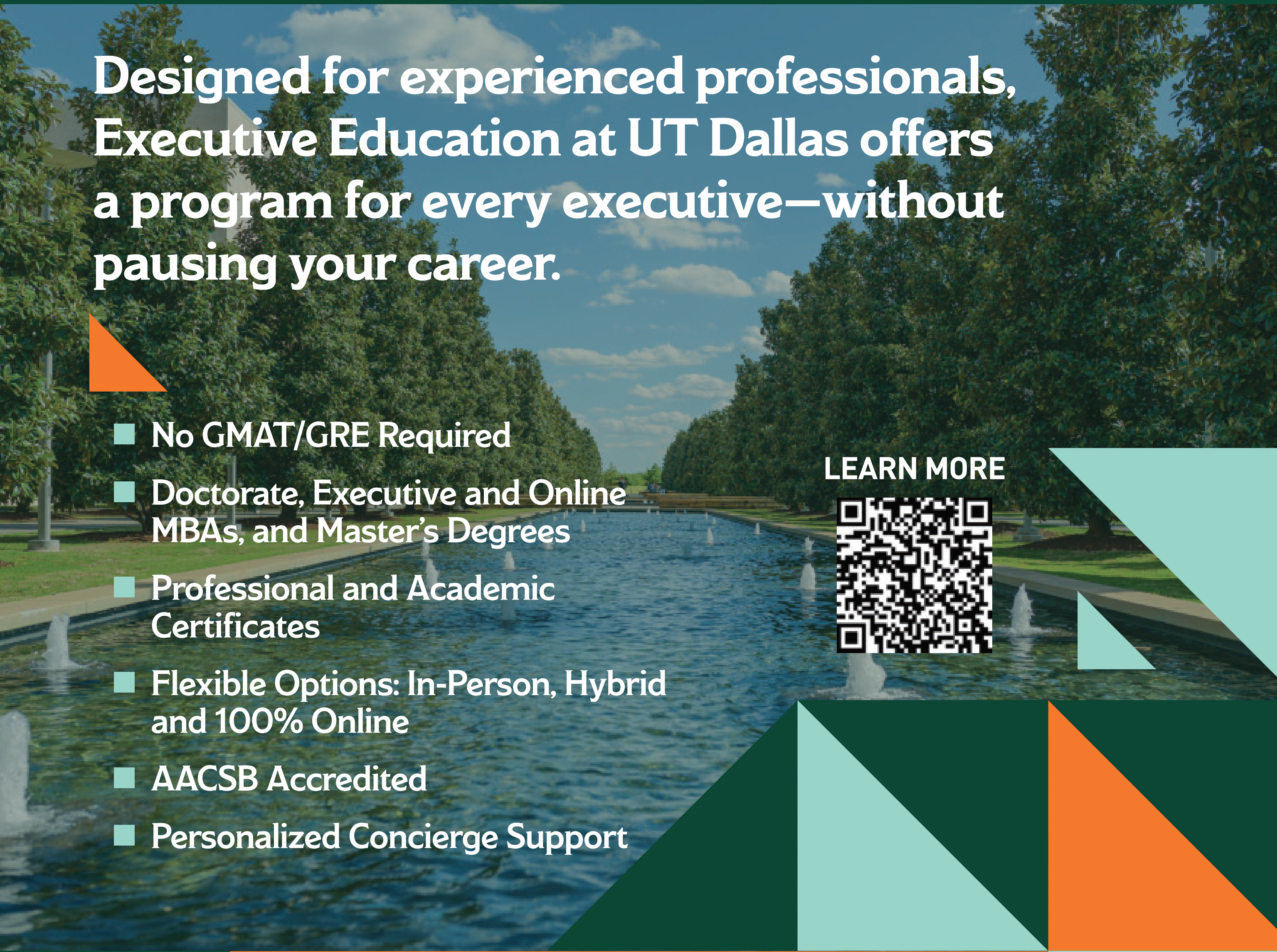
The $130 Spectacles were a viral sensation, at first only available in bright yellow pop-up vending machines quietly installed around Los Angeles, but they weren't a retail blockbuster. Snap ultimately wrote down $40 million in unsold inventory. While subsequent generations improved photo and video capabilities, Spiegel realized cameras weren't enough. The glasses needed a display.

The latest, fifth-generation model Spiegel is outfitted in today features a new operating system, Snap OS, which software makers can build custom AR apps on using the company's Lens development tools. The device is currently only available to members of Snap's developer program, for $99 a month with a minimum one-year commitment, while Spiegel and his team work on ways to extend its 45-minute battery life and radically slim its bulky form. Wide and weighing almost a half-pound, Spectacles will make you look like either some futuristic welder or a Charli xcx fan living an eternal *brat* summer. Interacting with it is nowhere near seamless yet, but when the Spectacles handle my midair taps and pinches right, it's magical.

As the noon sun beats hotter, Spiegel phones one of his design leads and requests that he spare an hour to showcase more multiplayer AR Lenses. After a brisk walk back to Snap's high-vibe offices, the Spectacles team fires up a slew of these apps. A drawing Lens lets us doodle colorful sketches together that hover in space as we move around. There's one from Lego Group for stacking digital bricks with friends, and an educational game puts us in the shoes of polar explorers to learn about climate change.

With Snap OS, Spiegel hopes to make it simple enough for any artist to build a Lens, particularly with the help of artificial intelligence. Instead of developers writing code, Snap is investing in ways for them to tap into models from Google or OpenAI, so generating 3D visuals is as easy as typing a text prompt into a chat box. The company has also been testing cheaper models from DeepSeek, the small Chinese startup that astonished and frightened the big Western AI giants, particularly Meta, with its disruptively cost-efficient approach. Spiegel found it inspiring. "Even small, highly resource-constrained players can come out with a real breakout," he says.

Spiegel is always searching for a silver lining. In January, after wildfires tore through Los Angeles, he was shocked to learn his father's home, which also served as Snapchat's very first office, burned down in the Palisades. He and co-founder Bobby Murphy went to walk the ashes once the area was safe. "The scale of destruction, it was just unimaginable," he says. The pair, along with their company, has contributed $15 million to immediate aid and ongoing relief efforts, and Spiegel is also funding a 10-year study by a group of academic researchers of the long-term toxicity and health effects of wildfires. When I ask if it was sad to lose their figurative startup garage, Spiegel says the notion never occurred to him. Ⓑ



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In View

Our contributing writers' guide to a changing landscape

PHOTOGRAPH BY CAROLINE HEINECKE FOR BLOOMBERG BUSINESSWEEK; PROP STYLIST: ALIN BOSNOYAN

Trump wants to make tips tax-exempt. **Ben Steverman** on how that could backfire

The way Donald Trump tells the story, a young waitress at his Las Vegas hotel restaurant last year mentioned that tax collectors were hounding her "viciously" for tip income. "'You know, sir, you should have no tax on tips,' she said. I said, 'What did you just say? Say those words again,'" the president recalled earlier this year. "'You just won the election for me.'"

"No tax on tips" entered Trump's stump speech in June, later joined by no taxes on overtime and on Social Security and a host of other generous promises. Each raised questions that the candidate didn't try to answer in any detail. Now that he's back in the White House, Trump, along with congressional Republicans, faces the challenge of turning his slogans into sections of the Internal Revenue Code. It won't be easy. Nothing can set off a chain of unintended consequences quite like revising tax rules.

What sounds good at first can unleash a cascade of unexpected and undesirable effects. In 1696, Britain's King William III started taxing buildings on the basis of their number of windows, an early attempt at progressive taxation. But the levy, which lasted 155 years, prompted landlords to block up tenement windows, robbing the poor of light and ventilation. In 1990 a luxury tax on purchases of boats, private jets, high-priced cars and expensive jewelry seemed like a nice way to narrow the US budget deficit—until it devastated the American yacht industry, put tens of thousands out of work and was quickly repealed.

Tax cuts are most likely to engender perverse results when they favor one kind of income over another. Lawyers and accountants have spent years dreaming up ways to steer their rich clients' money into capital gains, which get preferential tax treatment over ordinary income. They often succeed, which is why your typical billionaire pays a lower rate than their secretary.

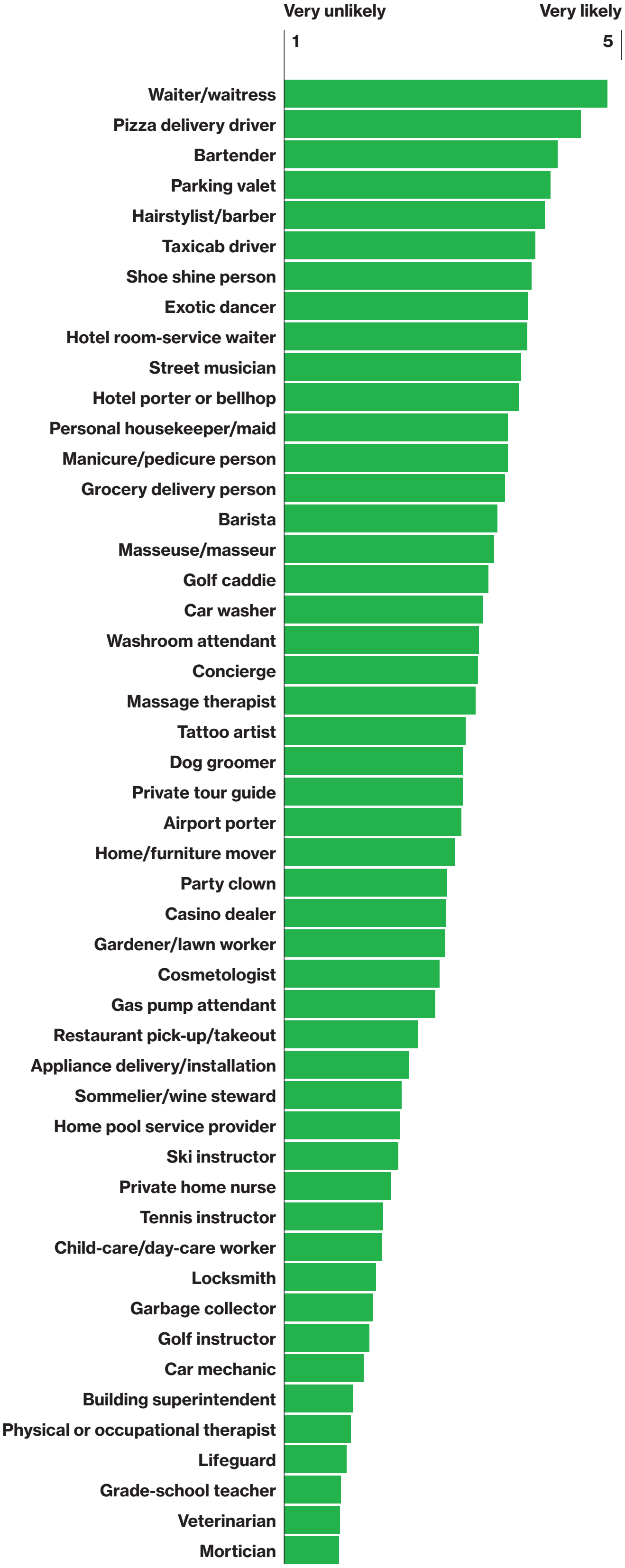
The first drafts of legislation implementing "no tax on tips," quickly advanced by Texas Senator Ted Cruz and other Republican lawmakers last year, put up no restrictions at all. To take advantage of the exemption, anyone, including investment bankers, corporate lawyers, doctors and maybe even chief executive officers, might have started taking their compensation in the form of tips. More recent versions of "no tax on tips" impose some limits, based on occupation, income and amount of tips, which happen to bring Republicans closer to the proposal Democratic candidate Kamala Harris floated in response to Trump's promise last year.

Polls suggest not taxing tips is particularly popular with the public, a generous gesture to the low-wage workers who bring our meals, cut our hair and make us coffee. Nonetheless, it's hard to find a tax expert, from the left, right or center, who likes the idea. When you include overtime, not taxing two common forms of income could be messy and complicated, they worry, while having weird effects on the behavior of companies and workers. "If there aren't any guardrails, people could do crazy things with this," says Christina Lewellen, a professor of accounting at North Carolina State University.

First, there's the issue of fairness. Why should a server at a fancy restaurant in Manhattan get a tax break on their tips, while a cook with the same income pays more?

Who Gets Gratuities?

US survey of tipping likelihood for selected service occupations, assuming the person did a good job



■ DATA: MICHAEL LYNN, JOURNAL OF ECONOMIC PSYCHOLOGY, JUNE 2016

Second, tax purists also cringe at the difficulty of drawing lines between different types of income, saying one is tax-free and another isn't. What is a tip exactly? Existing rules suggest it's not the mandatory service charges often imposed by restaurants on large parties. That is, a tip must be voluntary.

The meaning of "overtime" is harder to pin down. The law generally requires that hourly employees, and some on salary, receive 50% extra for working more than 40 hours per week. But millions of Americans not eligible for mandatory overtime also work long hours, including those who stitch together multiple part-time jobs. In a "no tax on overtime" bill introduced by Idaho Republican Representative Russ Fulcher, part-timers wouldn't be eligible, whereas high-earning workers, such as the unionized stagehands at New York City's Carnegie Hall, who can make half a million dollars a year, would. In Fulcher's thinking, making overtime pay tax-exempt will encourage Americans to put in more hours, helping ease the strain on employers who say they cannot find enough workers. "We need to do something to encourage the cultural shift back to work," he says.

When everyone has an incentive to stretch the definitions beyond recognition, exact wording matters. "There are all sorts of ways you can pay people. You can call income tips, you can call it wages, you can call it bonuses," says Thomas Hall, emeritus economics professor at Miami University in Oxford, Ohio. The more you try to favor one category over another, the more potential gaps you open up for tax avoidance and fraud, he says. "It's like water. If you plug a leak in one place, it's going to pop somewhere else."

Precise rules can work but introduce complexity. Workers who want tax-free tips or overtime would face new paperwork to prove their eligibility (otherwise, millions of taxpayers would simply lie about their sources of income). Even if the tax break is designed to ward against abuses, there's a probability of second-order effects (economists prefer to call them "distortions"), which can be unpredictable and powerful. At least some of the blame for sky-high US health-care costs, for instance, gets pinned on employer-provided insurance's tax-free status.

Subsidize gratuities, and customers can expect even more insistent demands for tips. Incentivize overtime, and expect businesses to hire fewer employees working excessive hours. Economic theory also dictates that wages for eligible jobs would drop, as the supply of people willing to wait tables or work long shifts expands. "You could have broad shifts in the labor market," says Joseph Rosenberg, a senior fellow at the Urban-Brookings Tax Policy Center.

Then, of course, there's the potential hit to government revenue. "There's a lot of money on the line here," says Garrett Watson, director of policy analysis at the conservative Tax Foundation. An overtime deduction on income taxes would cost $673 billion over a decade, according to Penn Wharton Budget Model estimates. "No tax on tips" should be cheaper, starting at $78 billion, but neither number takes into account behavioral shifts by workers or businesses, which are practically inevitable. For example, companies could work out deals to let workers maximize overtime hours in some weeks, in exchange for wage concessions and fewer hours in other weeks. "The tax benefits can be divided between the employer and employee," says University of Michigan economics professor Joel Slemrod.

Wealthy people have been playing games like this to lower their tax bills for at least a century. Now working-class Americans would also get some loopholes to exploit. Yet unless they come up with clever ways to boost overtime and tips, or fool the Internal Revenue Service, only a thin slice of the workforce would be eligible to claim these exemptions. Only about 8% of hourly and 4% of salaried employees work federally qualified overtime on a regular basis, the Budget Lab at Yale estimates, and tipped occupations make up just 2.5% of the workforce.

In the end, millions of Americans who expect to benefit from exemptions for tips or overtime could end up sorely disappointed. For procedural and budgetary reasons, the breaks would almost certainly apply only to income taxes. But 3 in 5 US workers pay more in payroll taxes, and more than a third of tipped workers earn so little that they pay no income levies at all. That leaves high-earning tipped and overtime workers as the biggest potential winners, but even they may be left out depending on the rules. The latest version of Cruz's proposal allows only $25,000 of deductible tips annually, limited to jobs that "traditionally and customarily" receive gratuities, as determined by the US secretary of the Treasury, and to workers earning less than an income threshold of $160,000 in 2025.

Although "no tax on tips" is a new slogan, the battle over taxing gratuities has been raging for decades. For much of the 20th century, the IRS had few ways of forcing workers to pay taxes on cash tips. Fewer than 20% of tips were being reported, the agency estimated in the 1960s. In the '80s, Bob Dole, the Republican Senate leader and future GOP presidential nominee, championed a law that boosted tax collections by presuming restaurant servers were getting tips of at least 8%. When it was enacted, complaints poured in. "I hope every one of you always gets terrible service, cold food, and may all your daughters grow up to be nothing but waitresses," one woman wrote.

Tipped workers might find themselves even worse off under "no tax on tips" if it comes with red tape that forces them to report more income to the IRS, triggering higher payroll taxes. Credit and debit transactions are already making it more difficult to hide gratuities. A Census Bureau study released in November estimated 64% of restaurant tips were reported in 2018, a share that had gradually risen over time.

Another danger of not taxing tips is how customers might react. A key motivation for giving gratuities is the perception that service workers earn less, says Michael Lynn, a professor at Cornell University who's an expert on tipping. Will patrons tip less when they realize service workers are getting a tax loophole they're not eligible for?

Lynn cites surveys showing Americans generally feel more negatively about tipping these days, as more and more businesses use checkout screens that default to 20%, 25% or 30% gratuities, even on takeout orders. "The majority of people are resisting that pressure," he says. "Consumers ultimately have the final say in who gets tipped and who doesn't." Ⓑ

Buying Power

“Buy American” is a bait and switch, says Amanda Mull

When a horde of angry colonists barged aboard ships in Boston Harbor to pitch hundreds of chests of imported tea into the water, some of them suspected they were fomenting a revolution. They probably didn’t realize they were also galvanizing a marketing campaign that would endure for centuries.

The Boston Tea Party was the pinnacle of the “nonimportation movement,” in which colonists protested British rule by boycotting goods from overseas and shaming others into doing the same. For early Americans, this outburst of economic nationalism was existential: It helped spread the view that England was an outside enemy and encouraged people to act against the country’s economic domination. More recently, the concept has been winnowed down to something pithier: Buy American.

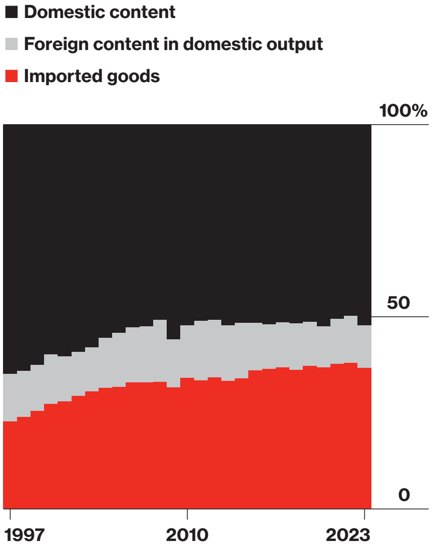
“Buy American” campaigns with somewhat less revolutionary aims have been periodically invoked ever since. Most recently, President Donald Trump—who dubbed himself the “Buy American, Hire American” president during his first term—has countered opposition to his administration’s chaotic tariff regime by telling supporters that purchasing goods made in the US will strengthen the country. The theory behind his moves is classic protectionism: Unfettered foreign imports undermine American industry, so making those goods less desirable to consumers by raising their price safeguards high-paying US manufacturing jobs and expands the domestic economy. The logic is compelling to people on both sides of the political aisle. Lots of Americans perceive foreign goods as inferior junk anyway, so why not buy things that help our neighbors stay employed?

The question of whether Buy American campaigns actually work depends on how you define success. Taken at face value, the most obvious indicator of their efficacy would be a durable, even if marginal, reversal in consumption trends at a national level—the mix of domestic and imported goods consumed would edge back toward the domestic. There is little evidence to this effect, though the data is muddled somewhat: The biggest Buy American campaigns have been introduced during recessions and paired with onerous tariffs, both of which on their own reliably tank the number of goods entering the country, according to data from the St. Louis Federal Reserve. The same data shows that once a recession ends, imports tick back up to their previous trend line very quickly. If nationalist sentiment alone were enough to change American consumer habits, you’d expect to see it move the needle in ways that don’t adhere so tightly to the nation’s overall economic conditions.

Another indicator that Buy American campaigns work would be growth in the number of jobs in the country’s manufacturing sector or, at the very least, the preservation of existing jobs. This, too, doesn’t seem to be the case. In her book *Buy American: The Untold Story of Economic Nationalism*, the historian Dana Frank identifies the two largest Buy American campaigns as those waged in the 1930s and the 1980s—eras during which the US was hemorrhaging manufacturing jobs. In the 1930s, President Herbert Hoover’s tariff regime—the Smoot-Hawley Act (“Anyone? Anyone?”)—deepened the Great Depression. A significant manufacturing recovery didn’t happen until the massive government investment in defense procurement that came along with the US’s entrance into World War II.

The Origins of What America Buys

Domestic purchases of manufactured goods by US residents, by component



Many of the manufacturing gains made during that era were sustained for decades after, and high rates of union membership in industrial trades helped establish a period of unprecedented growth and prosperity for middle-class workers. Domestic manufacturing employment peaked in mid-1979 at 19.6 million jobs, according to the Bureau of Labor Statistics. Then came the oil crisis, the Volcker Shock and Reagan’s war against the unions. By early 1983, almost 3 million of those jobs were gone. About half returned by the mid-1980s, when the recession ended, but the US would never again surpass the high point from the late 1970s, even as Buy American campaigns raged on. In both of these historical instances, the flood of private-sector investment into American industry that was supposed to follow all of that purchasing of American products never came.

In a modern world of globalized supply chains, what it would take for a Buy American campaign to work becomes ▶

■ PHOTOGRAPH BY MATTHEW XAVIER PRALEY FOR BLOOMBERG BUSINESSWEEK ■ DATA: US DEPARTMENT OF COMMERCE. DATA INCLUDE PURCHASES BY INDIVIDUALS, GOVERNMENTS, BUSINESS ENTERPRISES AND NONPROFIT ORGANIZATIONS

◀ even more confusing. Goods and services are often not straightforwardly foreign or domestic: Delta is a US airline that flies hundreds of planes made by Airbus, which is headquartered near Toulouse, France, and builds its aircraft at factories in Europe and North America. So does flying Delta constitute buying American? Honda is Japanese, but it manufactures the Accord in Ohio—does that count? What about a Chevrolet Silverado? An American company manufactures that particular model in factories in the US, Mexico and Canada using some imported components.

And these are just the kinds of rare purchases that most people take the time to sit down and think through, in industries so highly regulated that the average person can find out quite a lot about their products' origins. What about everything else? Even if your cotton sweater was knitted in the US, do you have any idea how to find out where the cotton was grown?

Broad-based Buy American movements historically reject not only foreign goods but also foreign or non-White workers, even those on US soil

If Buy American campaigns don't achieve their stated aims, then what's their purpose? According to Frank, the most high-profile of these efforts have a couple of things in common: First, they tend to be spearheaded by corporate interests, even though they're often also supported by lots of regular people. In the run-up to the American Revolution, many in the wealthy merchant class supported boycotts of imports at least in part because it gave them enormous leverage to sell subpar goods languishing in their inventories and demand high prices for smuggled foreign products. In 1933 the newspaper magnate William Randolph Hearst astroturfed the Buy American movement to prominence, ordering his more than two dozen newspapers to feature it on their front pages every day for months. In the 1980s one of Buy American's most ardent backers was Roger Milliken, a South Carolina-based textile magnate, infamous union-buster and future co-founder of the Heritage Foundation. He put millions of dollars into the campaign's marketing effort as part of his Crafted With Pride organization, which did things like produce television ads about American jobs being lost to foreign workers, sponsor the Miss America pageant and prod Walmart into creating displays of American-made products in its stores.

The second commonality is that they come at times of significant national wounds. Of Hearst, Frank writes, "The Buy American movement of early 1933 was possible only because his arguments landed in a fertile field—a nation in crisis, with its president in denial, and in which many people were already in the mood to turn inward." Broad-based Buy American movements historically reject not only foreign goods but also foreign or non-White workers, even those on US soil. In this way, at least, Buy American campaigns work beautifully: They take existing dissatisfaction and unrest among US workers and reorient it away from those wielding power domestically and toward a foreign threat. Suddenly the most important relationship in the labor economy isn't between workers and owners, but between Americans and their foreign opponents—and big business can more easily cast itself as an ally of the everyman. They'd love to treat their workers well, if only they had the customers to afford to do it.

Over the course of decades, the American manufacturing industry has been hollowed out, its secure union jobs largely replaced with more precarious service and care work. The US is a deeply divided country where wealth has become steadily more concentrated among the top decile of earners, a phenomenon that a growing swath of Americans now blame at least in part on immigrants pushing native-born workers out of good jobs or sucking up public resources they don't deserve.

Americans are taught to think of themselves as consumers with economic duties above and beyond their civic duties, which makes the patriotic duty of shopping possible on a conceptual level. The surface logic of Buy American has always been an easy sell across the political spectrum—a way to score unity points, even if it doesn't change behavior. The new administration is just playing the hits. Ⓑ

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Measuring AI’s effects on productivity is tough, explains Diane Coyle

“Time is money” is a well-worn phrase in the corporate world. Like many other clichés, it’s often used yet rarely taken seriously. But in the context of artificial intelligence and its effects on economic productivity, time—and more specifically, time savings—is becoming one of the most important measures of whether the huge investments in the technology will pay off.

Any technology’s potential to lift living standards depends on its ability to drive improvements in what economists term total factor productivity—that is, getting more value out of all the resources used in the production of goods or services. Productivity has become a key preoccupation of business leaders and policymakers alike, because its growth has slowed substantially in recent decades, even as technological change appears to be progressing astonishingly fast.

Although almost every week brings a new AI model with startling capabilities, and the corresponding expectation that it will help companies improve their workflows or services, evidence of the advertised efficiency gains aren’t showing up in the economic statistics so far. Surveys suggest plenty are trying out AI. A recent US Federal Reserve Board overview of business surveys found 20% to 40% of workers were doing so. Another study found that the rate of adoption among companies in the European Union averaged 13.5%.

When earlier so-called general-purpose technologies have emerged, it’s always taken time for the productivity benefits to show up in national statistics. A well-known case study on the electrification of American manufacturing during the early 20th century found the lag was about 50 years. One key reason: Businesses had to invest not only in electrical equipment but also in new factories. A steam-powered mill stood several stories tall so it could use its source of energy efficiently, whereas an assembly line powered by electricity needed a flat layout. A trio of economists led by Stanford University’s Erik Brynjolfsson labeled this phenomenon the “productivity J-curve”: Productivity falls upon the adoption of a new technology before it goes up.

Another reason productivity gains are slow to show up in the data is that measuring productivity is difficult, particularly in the large swaths of the economy that are no longer producing standardized, easy-to-count goods such as washing machines and auto parts. Take management consulting or legal services. Statistics agencies can easily collect data on the revenue of those types of companies, but what is the quantity of their ▶

◀ output? It surely isn't the length of a slide deck or the number of pages in a legal brief. The price they charge for services is linked to quality, but how can a statistician take account of the quality of management or legal advice?

Google makes billions from a service it offers for free—search—by charging for ads displayed alongside the results. Yet attributing the creation of economic value, which is what productivity aims to measure, is less straightforward than tallying Google's revenue. What about the contributions of internet service providers, data center owners and content providers?

Looking at time spent—how much and by whom—is a more useful productivity metric to trace the impact of AI. Although we tend to think about technology in terms of new gadgets or inventions, most of the productivity improvements in history came down to workers gaining the ability to do some things faster, freeing up more time for other activities. In short, process innovations are more important than product innovations.

Think of the spread of the steamship. Earlier improvements, such as sheathing hulls with copper, had sped up sailing ships, but it was the adoption of steam-powered clipper ships that transformed travel and trade in the late 19th century. A more recent example of a process innovation is the spread of the "just in time" manufacturing techniques pioneered in Japan during the 1980s. Enabled by improvements in logistics, industries from autos to apparel moved to align production more closely to demand, cutting down the risk of getting stuck with unsold inventory.

For some technologies, the economywide benefits are less clear. Consider the self-checkout kiosks now installed at many stores. They save store owners the wages of the cashiers they replace, possibly increasing the measured productivity of the retail sector. But they make use of the unpaid time of shoppers instead, so it's not clear there's much of a productivity gain overall. In many other ways, some applications of AI are imposing a time tax on consumers to the benefit of the organizations using them. Think of the time (and stress) involved in dealing with those customer-service call centers where no human ever picks up the phone or navigating the returns process on an e-commerce site.

> **Looking at time spent—how much and by whom—is a more useful productivity metric to trace the impact of AI**

For such reasons, time is a key economic metric of interest as AI begins to transform our lives. Unfortunately, there's little data collection on how people allocate the hours of each day, either at work or outside of it. Some national statistical agencies that survey consumers about their time use now include questions about online activities. But these surveys are infrequent, and it's still hard to discern whether online activities are making life more convenient and efficient or are instead charging a time tax through complicated online menus, thereby pushing the labor on to the individual.

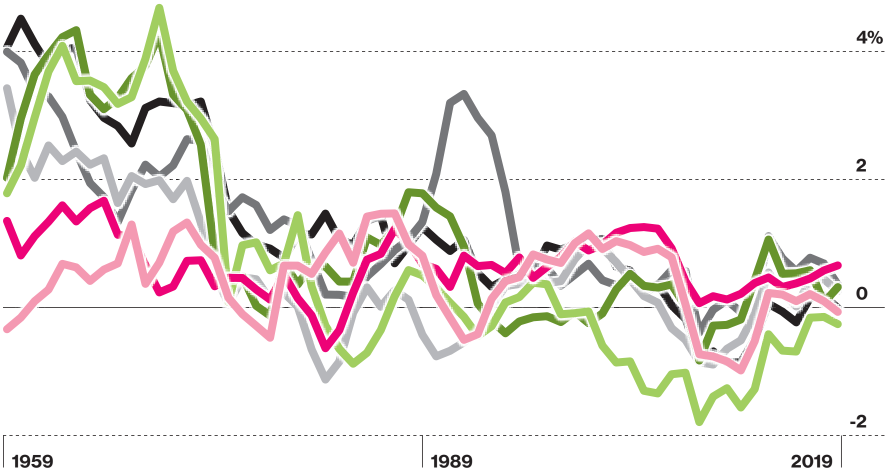
AI is already proving useful for the automation of time-consuming processes—summarizing legal precedents, formatting presentations and writing standard pieces of code. Businesses should be thinking of their productivity opportunities in terms of how their employees are spending time now and how they might spend it in more valuable ways in the future. In other words, AI offers the opportunity to figure out which activities or tasks are time sinks. Employees will certainly know the answer, though they may be loath to share the information with their bosses, for fear their jobs could be eliminated. (A 2023 report by Goldman Sachs estimated that AI might do away with 300 million full-time jobs worldwide, but nobody really knows.)

Economists and statisticians, meanwhile, should be thinking about new types of surveys and more innovative methods of data collection, such as tracking cellphone and computer usage, that would help fill in some of those blanks. How we allocate the 24 precious hours we have in a day is the ultimate measure of value—and how AI will prove its economic worth. Ⓑ

Productivity Stagnates in G7 Countries

Annual change in total factor productivity, 5-year trailing average

France Germany Canada Japan Italy US UK



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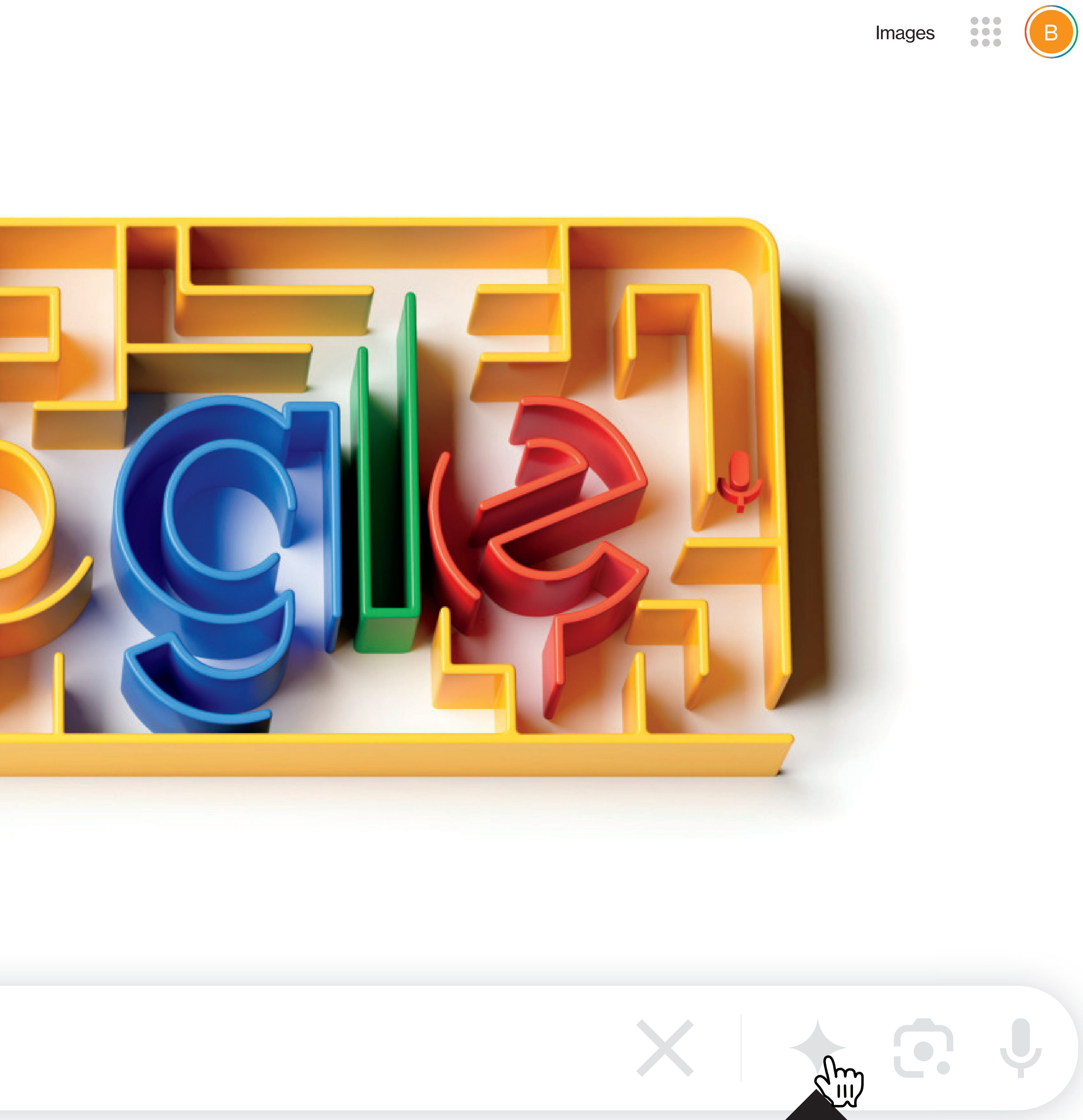


The company is overhauling its $200 billion money machine before everyone abandons it for ChatGPT

Illustrations by Cameron Galley

One day in 2021, Google's web search team presented leadership with what was, at the time, a novel proposal: Rather than just have the search engine serve up its familiar list of links, have a chatbot greet visitors at the search results page and offer to answer questions directly. This wasn't necessarily a shocking idea. Chief Executive Officer Sundar Pichai had been talking for years about redesigning Alphabet Inc., Google's parent company, around artificial intelligence, and the organization ran DeepMind and Google Brain, two of the world's most sophisticated AI labs.

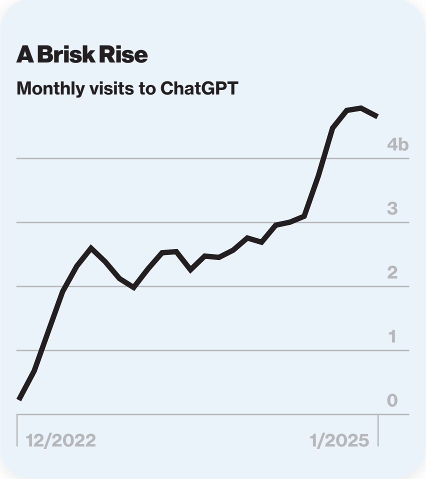
Still, the team's management bristled at the proposal, according to a former employee with direct knowledge of those conversations. Googlers rarely suggested tinkering with the search engine's fundamental design. "It was self-regulation. People just weren't daring to think the thoughts," the former employee says. The division's leadership worried that its latest AI, though promising, wasn't accurate enough. And even if it worked perfectly, answering users' questions with AI risked upending Google's core business of mixing so-called organic links with a healthy dose of targeted ads. The idea died, at least for the time being.

For more than two decades, Google Search has ruled the web. It serves as the primary gateway to the internet for billions of people—it currently processes almost 200,000 queries each second, according to the digital marketing company Semrush Holdings Inc. Roughly two-thirds of all web traffic referrals come from the search engine. Search is also Google's beating heart, generating more than $198 billion in revenue in 2024, almost 60% of Alphabet's annual sales.

The machine is still humming away, but a chorus of discontent has been building among the web-going public in recent years. Users complain that Google results are increasingly larded with advertising and self-serving features. Its power over the web also means a substantial portion of the internet has been designed primarily not for human consumption but for Google's own web scrapers. Junky sites with poorly researched listicles or aggregated product reviews seize prominent space in results, frustrating users and grabbing ad revenue from more useful websites less versed in search engine optimization. Tech critics (and lawyers representing the federal government in antitrust litigation) have been arguing that Google's continued dominance in the face of such shortcomings is proof that the search market is no longer competitive.

Then in 2022, OpenAI introduced something new. ChatGPT bore notable resemblance to the 2021 proposal Google had rejected. Like the original version of Google, OpenAI's chatbot provided a simple field for entering text and not much else. The results it spit out didn't display ads above the real answers or offer links to long-winded recipe sites where multiple autoplaying videos made it hard to concentrate on the steps to make a chickpea salad. And even though its answers weren't always right, the sheer novelty meant users gave OpenAI a level of grace they might not have extended to the long-running leader of the search world.

One thing that really stung about ChatGPT's rise was that it was built on Google's own inventions. OpenAI's chatbot uses an AI architecture that Google detailed in a now-legendary research paper published in 2017. The breakthrough, a system known as a transformer that helps AI models zero in on the most important pieces of information they're analyzing, was free for all to use. That Google's engineering team had woven the technology into search only in the safest of ways showed how much the company struggled to translate its AI breakthroughs into substantial consumer products.


A Brisk Rise

Monthly visits to ChatGPT

Around the time ChatGPT arrived, pushing through this inertia became the job of Elizabeth Reid. A veteran Googler, Reid joined the search team in 2021 and took over the unit in March 2024. Since then she's ushered in some of the biggest changes to Google's core product in years—most notably AI Overviews, which cedes the most prominent space on the search results page to AI-generated responses. In March the company said it will begin experimenting with "AI Mode," a dedicated tab on its homepage that offers a chat-based search experience similar to what it had rejected four years ago.

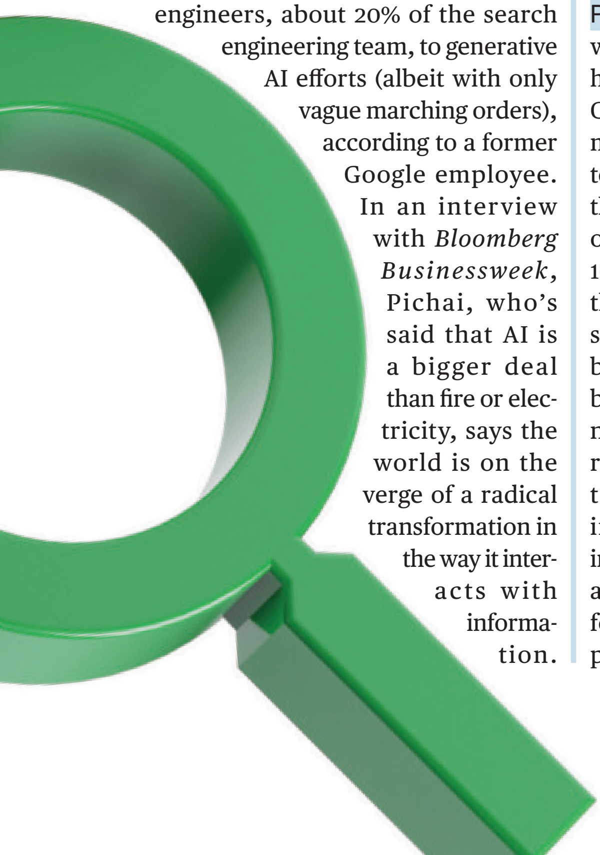
Reid refers to her approach as a "constant evolution" rather than a complete overhaul. Her team is still struggling to define the purpose of Google Search in this new era, according to interviews with 21 current and former search executives and employees, most of whom requested anonymity to avoid straining professional relationships, plus more than two dozen other people in the tech and media industries.

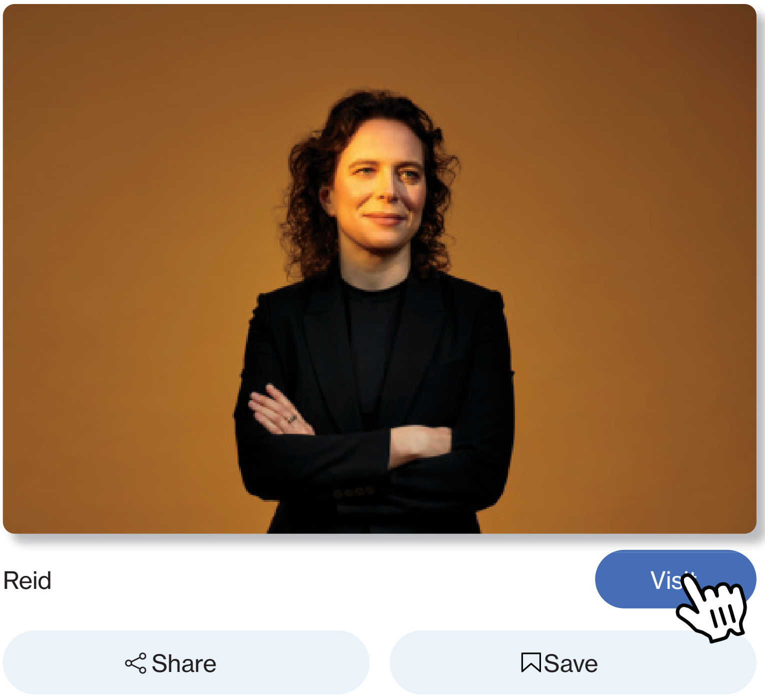
■ PHOTOGRAPH BY JESSICA CHOU FOR BLOOMBERG BUSINESSWEEK ■ DATA: SEMRUSH HOLDINGS

In the meantime, multiple independent web publishers say their traffic has been falling. They say AI Overviews poses a particular challenge because it presents information directly on Google's own results pages that users previously would have gotten by clicking through to the websites where it originated. In February the online education company Chegg Inc. sued Alphabet, saying the search feature was cribbing Chegg's own content, posing a dire warning to the company. Google's conduct "threatens to leave the public with an increasingly unrecognizable internet experience, in which users never leave Google's walled garden and receive only synthetic, error-ridden answers," Chegg said in its suit. José Castañeda, a Google spokesperson, responded to the suit by saying the company would "defend against these meritless claims."

AI's impact on Google itself is just beginning to show. Its search engine is one of the most profitable technologies ever developed, and, more than two years after ChatGPT's debut, there's little evidence that this is changing, though some analysts anticipate slower search revenue growth in the coming years. The company made more than $200 billion in gross profit last year.

Still, Google is acting with urgency. Shortly after OpenAI released ChatGPT, Google reassigned more than 1,000 engineers, about 20% of the search engineering team, to generative AI efforts (albeit with only vague marching orders), according to a former Google employee. In an interview with *Bloomberg Businessweek*, Pichai, who's said that AI is a bigger deal than fire or electricity, says the world is on the verge of a radical transformation in the way it interacts with information.





"I think we are at 1% of what humanity's information needs are today," he says. "It'll be obvious a decade or 20 years from now. And I think we are underestimating how early all of this is." And so this is an existential moment for Google. It may also be an existential moment for the web itself.

Prior to ChatGPT, Google's search team was deep into what Arvind Jain, who held the title of distinguished engineer at Google until 2014, called "maintenance mode." 🔗 Thousands of engineers tended to an internal code base to keep the profits rolling in. It was vast and full of relics from years past, including 100,000 lines of code to make a feature that allowed people to vote in the 13th season of *American Idol*. (The initial code base for Uber Technologies Inc. numbered about 10,000 lines.) Search engineers fought over the currency of the realm: latency, or how long a web page takes to load. New features risked increasing load times, so Google invented a system that one former manager likened to cap-and-trade schemes for carbon emissions. To release new projects, teams first had to show they'd reduced latency elsewhere, sending engineers on missions to make unrelated parts of Google Search slightly faster.

Other times they toiled on projects they knew were pointless. In 2020 a former Google manager was charged with helping a team of dozens of engineers who were working on a project to make web search infrastructure more efficient. About six months in, a vice president let slip that he had no intention of releasing the project. But he advised the manager to keep going so the engineers would have something to show their bosses at the end of the year. Not everyone at Google hated such assignments. One former employee says people sometimes found it relaxing to work on projects for which everyone knew the stakes were low. But the barriers to introducing products hurt morale among engineers and sparked tension between management and rank-and-filers. In 2021, Manu Cornet, a search engineer who was also Google's resident cartoonist, captured the dynamic by sketching an image of a massive cargo ship with cannons, towers and cranes grafted on top of an aging hull patched with duct tape. Surveying the horizon from the deck, the captain remarks, "Poor execution speed. The rowers need a culture shift." ▶

◀ Google did sometimes push the bounds of search, as it did in 2016 with Google Assistant, a feature to field simple voice commands, such as checking the weather or finding out who'd won the Warriors game. Many Googlers wanted to push this further, but momentum was tempered by uncertainty about how the product would work with its existing advertising-based business model, according to two people familiar with the matter, one of whom framed the debate as an early taste of the angst that generative AI would bring. "How the f--- do we put an ad on it?" the former manager says of voice search. "That's when the real crisis started."

Google's role as a web indexer insulated it from the unreliability of the open internet: Because it was simply pointing to other sites, its users were less likely to blame it for things they found there. The company was periodically criticized for serving as a distribution system for scams and offensive content. But the reputational risks would clearly increase if Google began providing more information directly.

Google has been struggling with the implications of making that shift for more than a decade. In 2012 the company balked at releasing the Knowledge Graph, a collection of important facts about the world. The database, assembled by pulling information from sites Google scraped for search, could help the company respond to queries with direct answers and photographs. After months of work, it determined it had reached more than 95% accuracy, according to a former employee. But the product provided incorrect information in an internal presentation, and executives refused to give the green light. These hesitations would slow the company's response to generative AI as well. "They had the burden of, Google speaks the truth," says Jain, the former distinguished engineer.

Engineers eventually met Google's bar, and the product went ahead that same year. Once the tool was public, the dilemma switched from its accuracy to its impact on the economics of the web. The sites that Google pulled the information from relied on its search engine to send them web traffic and, often, ad revenue. Later, in internal meetings, Google executives argued the data was fair game because Google credited sources such as Wikipedia in small print beneath its answers, according to one of the former employees.

Googlers were well aware of the tension between the preferences of users, who liked getting information quickly, and the needs of websites that produced that information. "I don't know what the right answer is," Cornet says. "I would say that, at least as an employee, I felt like the focus on the user was a good enough reason for me to think that Google wasn't trying to do anything nefarious—even though it may put some companies out of business."

On the flip side, Google's business model also supported services that were distinctly not useful for users but were tuned to extract ad revenue, like scammy product affiliate sites and clickbaity news aggregators. Within the past several years blog posts began appearing about the declining quality of Google Search. Users started trying to avoid low-quality sites with tricks such as appending the term "Reddit" to their queries in the hope of locating threads where the information was coming from real people.

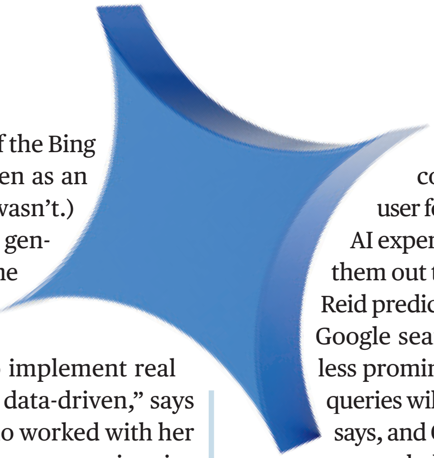
It's hard to empirically measure the quality of something as vast and ever-changing as Google Search. But academics who've studied the subject say quality has notably declined. "I think there really is a feeling of decay that is just widely felt," says Emma Lurie, a doctoral candidate at the University of California at Berkeley who's been studying search engines since 2017.

Some Googlers bristled at these complaints. Representatives for Google point to independent assessments determining that its results are higher quality than other search engines. "People have high expectations for search and what it does for them," says Pandu Nayak, Google's chief search scientist. "And when it delivers on those high expectations, they don't notice it because it's just working the way it should."

Even within the company, criticism was mounting that Google was being guided by the wrong incentives. There's natural tension between the search unit, which worked to produce the most useful results to users' queries, and the advertising division, which looked to maximize the revenue those queries produced. To keep the priorities of the advertising division from distorting organic search results, those two divisions had traditionally been separated. Some Googlers felt the firewall was weakening as growth leveled off, according to two former employees who'd worked in search. In early 2019, Google declared a "Code Yellow," because it might not meet its goals for search revenue for the quarter, according to documents unearthed in the US Department of Justice's 2023 antitrust trial over Google's search engine, which ultimately resulted in a federal judge's ruling that Google maintained an illegal monopoly in search. (The company has said it will appeal.)

"Google wasn't trying

As part of the Code Yellow emergency, engineers from Google's search and Chrome browser teams were reassigned to figure out why user queries had slowed. This trend spelled trouble for Google's advertising business, because each query represents an opportunity to display a targeted ad. But the actions Google took to address this problem made then-search chief Ben Gomes uncomfortable. "I think



it is good for us to aspire to query growth and to aspire to more users. But I think we are getting too involved with ads for the good of the product and company," Gomes wrote in an email made public during the trial.

Google called off the Code Yellow seven weeks after it began, with Prabhakar Raghavan, then head of Google's advertising division, praising "heroic" engineering for helping the company reach its revenue goals despite the slowdown in queries. Shortly thereafter, Gomes shifted into a new role in the educational division, and Raghavan became head of both search and ads—further eroding the divide in the eyes of some Googlers. When asked about such concerns, Pichai says that "commercial information is information, too," and that advertising can be valuable as long as it's clearly identified. "The true north is the users," he says. "I think focusing on the users and focusing on quality ends up being the approach by which we will do it all."

to do anything nefarious—even though it may put some companies out of business"

The 2019 concerns about query volume would seem quaint compared with the reaction to ChatGPT. Reid had joined the search team only 19 months before and was still learning how it differed from her previous posting at the company's Maps division. "It's like you're the next-door neighbor who was always in the house, but not after bedtime," Reid says. She pantomimes inspecting the depths of a closet. "You still have a lot to learn."

Some people who worked at Google when ChatGPT arrived describe a panic sweeping through the company. But, recalling the moment as she guides a pair of *Businessweek* reporters around the Googleplex in Mountain View, California, while dressed in an outfit based on Google's rainbow palette, Reid downplays the idea that the company was shaken by the news. There were plenty of people at Google old enough to remember when Microsoft Corp.'s 2009 release of the Bing search engine was seen as an existential threat. (It wasn't.) Business as usual had generally worked, and some weren't inclined to rock the boat. Reid, though, was ready to implement real changes. "She is very data-driven," says Brian McClendon, who worked with her on Google Maps and is now a senior vice president at Niantic Inc. "She would not make a change based on hope, but if she believed she had the data, that this other way is better, she'd be a steamroller to get there."

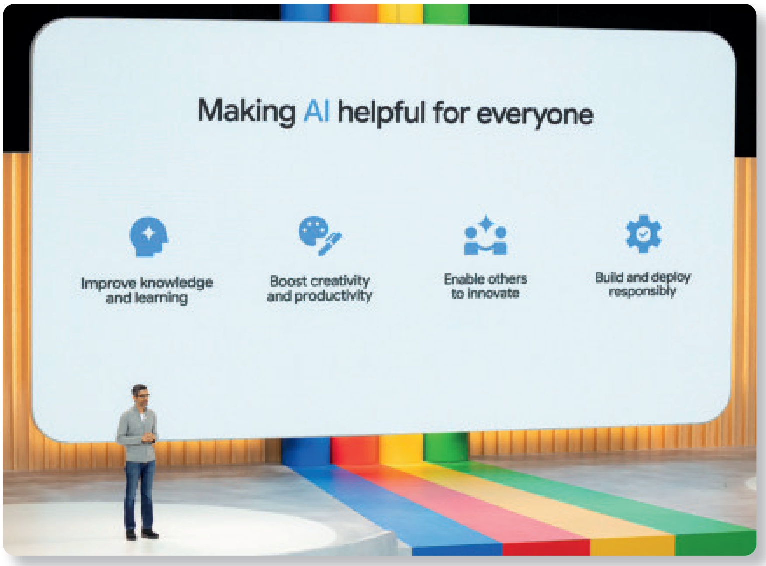
Reid has been rising quickly ever since joining Google in 2003, shortly after graduating with a degree in computer science from Dartmouth College, not far from her New Hampshire hometown. She worked in the New York office, where she gained a reputation for being both creative (she sewed her own wedding dress) and meticulous (she checked her team's code to a level of detail unusual for most managers). In her new role, she's one of the most important people at the company other than Pichai and enigmatic founders Larry Page and Sergey Brin.

Earlier in her Google career, Reid had worked on an early version of local search, a Maps feature that allowed people to limit their search to a geographical area. Brin, who oversaw the launch, pushed the team to release it even though they hadn't yet completed building the ideal technical infrastructure. This sort of thing would never fly in the search division today. It was also the right call, according to Reid. "We learned what people really wanted two months faster," she says. She describes it as a lesson in "how you experiment when you're trying to reinvent what's possible."

Reid has been attempting to bring that flexibility to her new post. Her team rolled out Search Labs, where enthusiastic users could sign up to try unreleased features, giving the company a way to get user feedback on generative AI experiments before rolling them out to the general public. Reid predicts that the traditional Google search bar will become less prominent over time. Voice queries will continue to rise, she says, and Google is planning for expanded use of visual search, too. Rajan Patel, a vice president for search experience, demonstrated how parents can use Google's visual search tools to help their kids with homework, or to surreptitiously take a photo of a stylish stranger's sneakers in a coffee shop to buy the same pair (something Patel did recently). The search bar isn't going away anytime soon, Reid says, but the company is moving toward a future in which Google is always hovering in the background. "The world will just expand," she says. "It's as if you can ask Google as easily as you could ask a friend, only the friend is all-knowing, right?"

Another step in that direction was Google's recent announcement of AI Mode, which allows users to explore topics in a conversational fashion and ask follow-up questions. Robby Stein, a vice president of product for Google Search, framed the feature as a way for users to explore complex questions that are a poor fit for traditional keyword search; the company's internal testing showed queries doubling in length. It's also a chance for Google to flirt with a new business model. AI Mode will roll out first to users who pay for a subscription to Google's premium AI features, a subtle but significant shift for a search engine that has always been free.

As AI became more prominent, Google began to lose employees to OpenAI, Anthropic and other startups that were moving faster and building more novel products. But, according to several people familiar with the company, morale at ▶


Making AI helpful for everyone
Improve knowledge and learning
Boost creativity and productivity
Enable others to innovate
Build and deploy responsibly

Pichai has compared AI to fire or electricity

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◀ the search division has improved as it has begun to feel more dynamic under Reid's leadership.

On earnings calls, Pichai has touted the company's progress in bringing down the costs of delivering AI answers. Brin has again become a regular presence in Mountain View, and he personally recruited his longtime colleague Noam Shazeer, one of Google's most storied engineers, to rejoin the company, Jain says. "What I have seen is renewed energy," he says. "Those early engineers are getting together, and now they have a target. There's somebody to catch up with."

Reid argues that Google is now on track. "Things start slowly and then quickly. Suddenly the combination of the tech and the product and the use and the understanding and the polish and everything comes together, and then everyone needs it," she says on her walk around the Googleplex. "It's really exciting to work on search at a time when you think the tech can genuinely change what people can search for."

As she exits the Maps campus in the fading afternoon light, Reid walks a winding path through a grove of redwoods, gingerly stepping aside to accommodate a Googler on a company-issued bike. Caterers in neatly pressed uniforms set the stage for an alfresco happy hour. It almost feels like the glory days of the mid-2010s, when Google was beloved by internet users and invincible in the market.

Google's executives weren't entirely wrong several years ago when they saw risk in building products that might give bad information in Google's own voice. AI Overviews, for instance, has parroted the false claim that Barack Obama is a Muslim, given outdated information about federal student loan policies and suggested that people eat one rock per day for health reasons. Skepticism about the reliability of AI-powered chatbots was already widespread, and Google's willingness to accept such "hallucinations" could be read as an ominous sign of how much it had lowered its standards to keep pace with other AI companies.

To Google, the answers were seen as embarrassing but not an indication of some fatal weakness in AI. Company representatives also said the examples ricocheting through social media were primarily the result of people bombarding the product with odd queries. Before the advent of generative AI, "people did not go to Google Search and say, 'How many rocks should I eat per day?'" Reid says. "They just didn't." She says she doesn't think Google could have done any better with the release.

Google's generative AI products still carry disclaimers that the technology is experimental. Testing tools in public helps them get better, Reid says. She's convinced that, as with other changes to search, AI will get people to use Google even more than they did before.

Some of the strongest reactions are coming not from users but from that other core Google constituency: independent website publishers. Since it became big enough to matter, Google has been in a delicate dance with the people making the sites, videos and articles that its products help surface. The company has consistently–and accurately–described its search as a vital way for websites to attract new users. But it's also steadily been providing more information on the search page itself, obviating the need for users to click through.

Supporting publishers has always been incidental to Google's larger aims, according to one former senior executive. "Giving traffic to publisher sites is kind of a necessary evil. The main thing they're trying to do is get people to consume Google services," the former executive says. "So there's a natural tendency to want to have people stay on Google pages, but it does diminish

The Toll of Changes to Search

Estimated monthly aggregate traffic to the 20 sites invited to Google's Web Creator Conversation Event in October

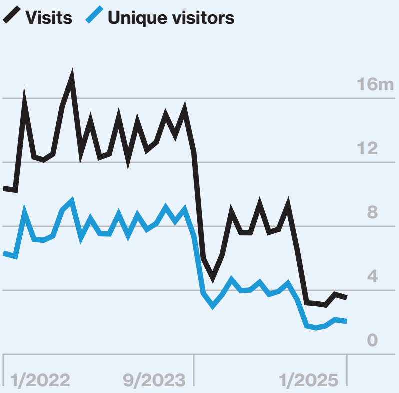

PHOTO: JASON HENRY/REDUX ■ DATA: SIMILARWEB

the sort of deal between the publishers and Google itself." Google contests this characterization, but AI Overviews may take it to its logical conclusion. Because Google's AI is trained on the web, its answers are a kind of remixed version of the web itself, while also distorting the economy that gave rise to the modern internet by potentially cutting the sites out of the equation entirely.

This is a real problem for publishers such as Emily Henderson, an interior designer who in the early 2010s built a booming online business by blogging about how to choose just the right-size rug for a living room, or how far to place the coffee table from the couch. Her posts often landed among the top results on searches about home decoration. This drove traffic to her site, which in turn made her subsequent posts more likely to show up high in Google searches.

In 2024, after the introduction of AI Overviews, Henderson was dismayed to find Google's AI sharing what appeared to be her decor guidelines as its own. Her traffic has dipped since May 2024, when AI Overviews was released. Although she's still working to understand what this means for her business, she's concluded she'll have to find another way to attract readers. "I loved the internet how it was, and I'm just a little fearful that we're going to lose people," she says. "It's just going to continue to get less human and more generic."

Website operators are also encountering new competition from AI-generated sites designed to game Google's search algorithms. As of March 2025 the news-rating group NewsGuard Technologies Inc. identified 1,254 news sites with content written largely or entirely by generative AI, up from 49 sites in May 2023. Dozens of AI content farms also appear on Google News, where they compete with traditional news outlets for clicks, according to NewsGuard. And Google's advertising business places ads on hundreds of AI-generated sites, sharing in the income they generate. In some cases, major brands' ads have appeared on spammy AI sites, as when marketing messages from the American Red Cross, Charles Schwab and Google itself showed up on news content farms with names such as What's New 2 Day and Time News.

A Google spokesperson says that AI-generated content isn't necessarily against the rules but that it takes action against low-quality sites and those that do violate its policies. "What generative AI did was give people a free and really easy-to-use tool to automate and scale spam techniques in a really big way," says Lily Ray, senior vice president for search engine optimization strategy at the marketing agency Amsive LLC. At the same time, she says, the standard practices that websites engaged in to make their sites legible to Google and therefore likely to become more visible in search are becoming less effective because of constant changes to Search's ranking algorithms. She says the relationship between Google and publishers is as tense as it's been at any point in the past two decades.

Reid says that Google cares deeply about publishers and that AI Overviews is a jumping-off point for users to conduct further research on the open web. Pichai, for his part, stresses the need to send "high-quality" traffic to websites, instead of making users click around on sites that may not be relevant to them. "We are in the phase of making sure through this moment that we are improving the product, but in a way that prioritizes sending traffic to the ecosystem," he says, adding, "That's been the most important goal."

In October, Google convened a group of about 20 website creators at its Mountain View headquarters, in what it called the "Web Creator Conversation Event." The company invited product reviewers, travel bloggers, and entertainment and lifestyle writers, and set up a series of meetings with its search engineers. "They told us that our content and our websites are exactly the kind of thing that Google wants to reward and that they need to do better," says Gisele Navarro, the managing editor for HouseFresh, a website that specializes in in-depth reviews of air purifiers.

The engineers asked the creators for tips on how to recognize when content was made by humans rather than generative AI, according to three people who were at the meeting. But Nayak, Google's chief search scientist, also advised publishers to take advantage of AI tools to help them write content, they said.

At one point an attendee pleaded with Google to roll back some of the updates it had made to search, arguing that it must want to remedy the harm it was doing to its partners. But Navarro remembers a Google engineer saying the company couldn't make piecemeal adjustments to core changes to the algorithm. Since then some attendees have folded, and others are struggling to adjust. Google framed it as a broad conversation about the changing nature of search, but the message in the mind of at least some creators was starker, according to Navarro: "Something they told us in that meeting was to never expect to go back to our old levels of traffic," she says, "because search has changed."

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RAPID EXPANSION MADE TD BANK A HOUSEHOLD NAME IN THE US BUT LEFT IT VULNERABLE TO CRIMINALS—AND BILLIONS IN FINES

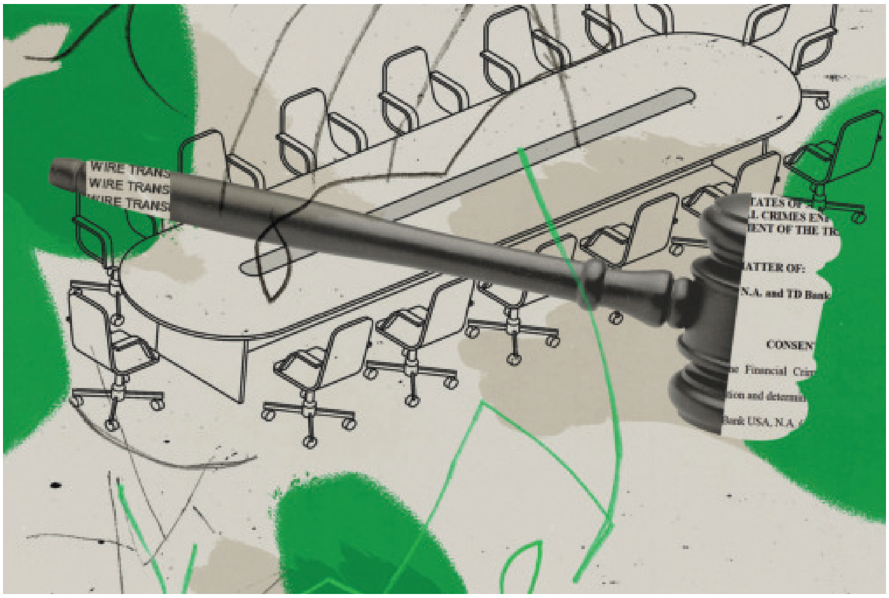
By Christine Dobby,
Ari Altstedter, David Voreacos
and Tom Schoenberg

Photo illustrations
by Mark Harris

On an overcast spring day in 2021, Da Ying "David" Sze walked out of a four-story concrete warehouse in Queens, New York, carrying several bags full of money. Sze, a father of two in his 40s and the owner of a garment company operating out of the warehouse, placed the bags in a Lexus SUV, then drove with two associates to a bank, where they made several large cash deposits. Unbeknownst to Sze, he was being watched the whole time.

Federal agents had been surveilling him for months. They suspected him of leading a gang of money launderers whose clients included Chinese fentanyl dealers. The agents had watched Sze and his associates pick up bags of cash at the warehouse and Sze's home, then drive to bank branches throughout New York, New Jersey and Pennsylvania. There, they'd make deposits and often immediately use the money to purchase bank checks, according to court documents and people familiar with the investigation. By the time law enforcement stepped in to arrest Sze and five members of his crew weeks later, in May 2021, they'd sneaked more than half a billion dollars of illicit cash into the financial system. Most of that business had been conducted at one institution: TD Bank.

When investigators looked closer at the bank, they realized Sze wasn't the only criminal who'd made TD their depository of choice. There was the group from Manhattan's Diamond District using bogus gold sales to launder money. The Colombian drug traffickers using TD debit cards to bring their US profits back home. And the human trafficking ring that claimed to be an HVAC company when it opened an account. The more investigators looked at TD, the more money laundering they found. ▶



◀ These surely weren't the kind of clients TD Bank Group was looking for when it acquired New Jersey-based Commerce Bancorp in 2008 and adopted its tagline: "America's Most Convenient Bank." Known as Toronto-Dominion in Canada, where it's one of the country's Big Five banks, TD was expanding furiously in the US, buying up more than half a dozen retail institutions in less than a decade. It was a bet on the competitive advantages of having branches everywhere, long hours of operation and easy account sign-ups, and it seemed to work. TD went from being almost nonexistent in the US at the turn of the century to the country's 10th-largest bank today. But the size and pace of its acquisition spree left it a favorite of America's underworld, too.

Last year, TD's American subsidiary became the first US bank ever to plead guilty to conspiracy to commit money laundering. The company agreed to pay $3.1 billion in fines to various parts of the federal government, a sum that included the biggest penalty ever levied by the Department of Justice under the Bank Secrecy Act, the main US anti-money-laundering law. More than two dozen people, including three bank employees, have already been charged. Prosecutors will be busy with investigations arising out of the TD case for years to come, according to a person familiar with the matter.

This account of how TD made itself vulnerable to criminals is drawn from dozens of documents filed in US court cases so far, including the consent order it agreed to in order to resolve an investigation by the Financial Crimes Enforcement Network (FinCEN) and the statement of facts it confirmed with the Justice Department as part of its guilty plea. *Bloomberg Businessweek* also spoke with investigators and bank insiders, who were all granted anonymity to discuss confidential information.

TD said in a statement it has "taken full responsibility" for the failures of its anti-money-laundering program and is "making significant investments and enhancements to meet the terms of the resolution, and help protect the financial system," adding, "This is our most important priority." The bank didn't respond to questions about most of the details in this article. A lawyer for Sze, who's awaiting sentencing after he pleaded guilty to various money laundering offenses in February 2022, declined to comment.

For TD, the story is one of breathtaking corporate hubris—of breakneck expansion followed by budget-cutting that left its branches open to exploitation by organized crime. For the rest of the industry, it's a cautionary tale that could have a lasting impact on American banking.

In messages investigators uncovered between two TD employees, one asked, "why [do] all the really awful ones bank here?"

"Because …," the other responded, "we are convenient."

The Chinese-born Sze had already been operating in the Queens garment industry when he added a new business line: laundering money for drug dealers. It's unclear how he was first introduced to them or whether he knew the source of the money he received. But the dealers needed a way to turn the proceeds from their illegal business into funds they could keep in a bank account and spend. And Sze's clothing operation, with its cash receipts and business accounts, afforded them an opportunity. Starting in early 2016 he gave it to them. A person familiar with his thinking says that at first he viewed it as just one more source of income.

As Sze's reputation for getting money into the legitimate financial system grew, he gradually diversified his client base, according to someone familiar with the investigation against him. To fulfill the demand, he began recruiting people to be listed as the legal owners of shell companies with names such as Asia Sewing or Broadway Fashion USA, then had them open business accounts for those firms. He or the account holder would then deposit cash and immediately withdraw the money as either a bank check or wire transfer, to get it back to the client. Sze's warehouse in Queens became one of the depots where the crew would come to collect bags of cash for deposit. He charged clients a commission of 1% to 2% of the cash laundered.

In 2020, Sze's illicit business began growing rapidly, the person familiar with the investigation says. So much cash was coming in that the only way to launder it efficiently was through bigger transactions, even if these were likely to draw scrutiny. Through a process of trial and error, Sze found that TD was the place to do it. He began moving hundreds of thousands of dollars at a time, sometimes upwards of $1 million in a single day. He later told investigators this was because TD "had by far the most permissive policies and procedures" of all the banks he'd tried, particularly when it came to filling out the paperwork they were legally obligated to send to the federal government.

Whenever a customer conducts a transaction involving $10,000 or more in cash, a bank must file what's called a currency transaction report with FinCEN, the federal agency responsible for preventing money laundering. These reports are compiled so law enforcement can identify people or businesses making regular large cash deposits and perhaps give them a closer look. To make it harder for money launderers to evade detection by using alternate account holders, as Sze was doing, bank staff are also required to report the name of the person actually conducting the transaction.

However, the software TD used to generate its currency transaction reports automatically filled in the name of the account holder as the person conducting the transaction. Tellers could update the field with the correct information, but investigators found that in Sze's case they'd failed to do so more than 500 times. The investigators concluded that, while much of this owed to poor training, Sze also occasionally bribed TD tellers with gift cards to keep the operation running smoothly—sometimes $25 for Starbucks or Whole Foods, according to a person familiar with the matter.

One time, Sze appeared on the bank's security footage—stout, in a green sweater and black puffer vest—piling stacks of cash at the teller counter for deposit into an account whose ostensible owner was nowhere in sight. Another time he provided only a photograph of the account holder's identification on his phone when making a deposit. And yet another time he was caught on camera at a Midtown Manhattan branch counting out $372,000 in cash while the account's nominal owner reclined in an armchair several feet away. Sze was rarely mentioned on the resulting currency transaction reports, and from 2018 to early 2021 he was able to launder $474 million through TD branches across five states while avoiding law enforcement.

Front-line staff did raise alarms, as demonstrated by messages laid out in TD's statement of facts with the Justice Department. Watching people with Sze's organization purchase more than $1 million in bank checks on a single day in 2021, one branch employee asked in an internal message, "How is that not money laundering?" to which a back-office colleague responded, "oh it 100% is." In an email exchange between two branch managers about the Sze organization's activities, one commented, "You guys really need to shut this down LOL." On a separate occasion, a different branch manager told his supervisors "it is getting out of hand" and said his tellers didn't feel comfortable handling Sze's transactions.

Some of these suspicions reached senior TD executives. But curbing money laundering is expensive—especially when you've already spent more than $20 billion to expand in the US.

The Justice Department ultimately determined that one of the executives who'd failed to stop Sze had been one of its own. Before joining TD in 2014, Mia Levine had spent more than a decade policing America's banks at the DOJ. A Tulane University-educated lawyer, she prosecuted money laundering cases and helped supervise the unit investigating them. Her experience included oversight of one prosecution that led Union Bank of California to admit it had failed to report transactions linked to cocaine trafficking. Levine also helped run the federal government's Troubled Asset Relief Program following the 2008-09 financial crisis, working to prevent the banking system from collapsing.

So in 2014, when TD hired her to run the internal team responsible for reporting potential money laundering to US authorities, her credentials were unimpeachable. But the team she took over was understaffed and buried under a massive backlog, leading them to prioritize speed over thoroughness, according to a person who worked there at the time. TD was also under some financial pressure—while its expansion had firmly established the brand in a faster-growing market, the American business was much less profitable than its Canadian counterpart.

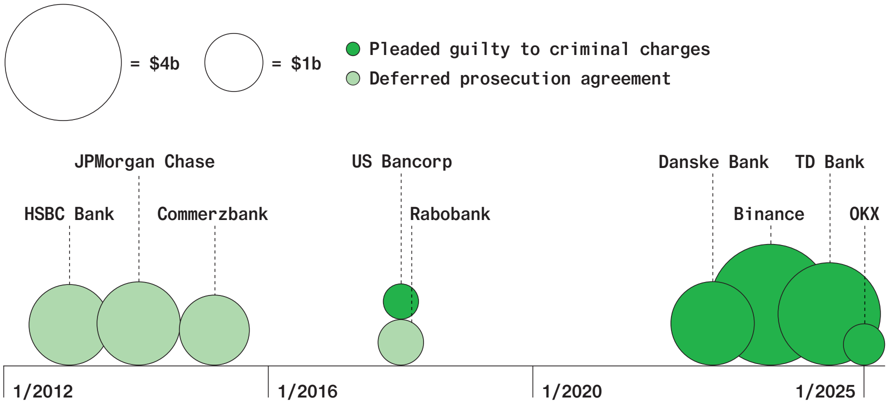
The same year Levine was hired, Bharat Masrani, who'd overseen the US operation, became chief executive officer of the parent company in Toronto. His priority quickly became slashing expenses to boost the share price. By the end of 2015, executives were saying the cost-cutting program would eventually save as much as C$600 million (about $449 million at the time) annually.

Former TD employees say efforts to thwart money laundering were also viewed through that lens. So, although Masrani had himself once been the bank's chief risk officer, initiatives to improve screening of high-risk customers were put on hold, gaps in the transaction-monitoring system were left unaddressed, and requests for more staffing went unfulfilled. His spending controls were known inside TD as "the flat-cost paradigm." (Masrani didn't respond to questions posed to him through the bank.)

By May 2019, Levine had been promoted to Bank Secrecy Act officer, the senior executive in charge of ensuring TD complied with US anti-money-laundering rules. Just two months into her new post, she received a report from her team showing that a new money laundering tactic, the "Colombian typology," was almost certainly going on at TD. The method involved depositing drug money into US ▶

THE COST OF COMPLIANCE FAILURES

Outcomes and fines for anti-money-laundering or Bank Secrecy Act violations*



*HSBC BANK, JPMORGAN CHASE, DANSKE BANK, BINANCE AND OKX CASES ALSO INCLUDED CHARGES SUCH AS SANCTIONS VIOLATIONS AND BANK FRAUD. DATA: US DEPARTMENT OF JUSTICE

◀ bank accounts, then withdrawing it in dozens of ATM transactions in Colombia. Withdrawals from TD accounts at cash machines in Colombia increased roughly 50% each year over a four-year period, despite the bank not having a single branch in the country.

According to TD's statement of facts with the Justice Department, Levine and other senior executives received a presentation about the Colombian typology that September, and she and her team discussed branch-level changes to stop it. Some of them noted that other banks had already made similar changes, which had likely pushed the criminals to try TD instead.

The proposed reforms were abandoned, though. The potential impact on "customer experience," as well as the increased staffing the measures would require, was ultimately deemed too great. But court filings don't say who made the call to kill the reforms. (Levine is identified only as Individual 2 or as TD's Bank Secrecy Act officer in the filings; her identity was confirmed to *Businessweek* by multiple people who worked at the bank at the time. She hasn't been charged with anything, and her lawyer didn't respond to requests for comment about references to her actions in the filings.)

Whoever made the decision to ignore the Colombian typology, it seems to have set a precedent for TD's approach to Sze. The next year, legal filings say, Levine began receiving reports highlighting various New York-based clothing companies depositing huge amounts of cash and withdrawing it with bank checks. The "extraordinary volume and value" of this activity was enough to make it stand out, as was the fact that it had come during the Covid-19 pandemic, when the use of cash at most businesses had declined dramatically, the legal documents say. But Levine didn't review the reports in detail. Her only comment on them included a request that they be generated less frequently.

In the end, it was the FinCEN currency reports Sze worked so hard to falsify that proved his undoing. Although he'd been largely successful at ensuring the reports obscured his involvement, they still had to state what business the company depositing the cash was ostensibly engaged in. His shell companies were listed as operating in the garment industry, and half a billion dollars in cash running through the Queens clothing trade seemed as suspicious to the Internal Revenue Service and the Drug Enforcement Administration as it did to TD's internal analysts.

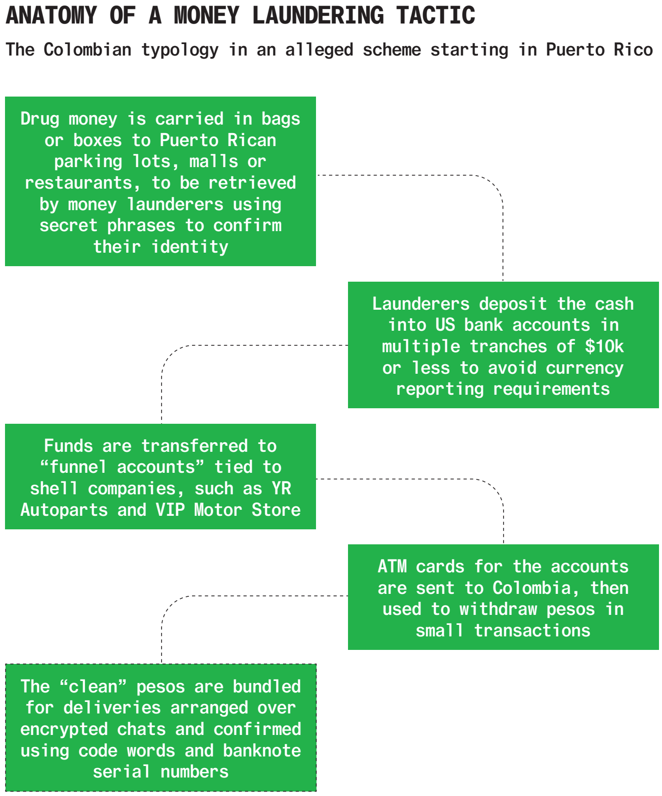
By early 2021 the US Attorney's Office in Newark, New Jersey, was involved, an effort coordinated by Marko Pesce, a young prosecutor on his first big case. Federal agents began tailing the people whose names were listed on the accounts. But the investigators soon realized they were patsies—mostly they just carried the bags of money or drove the vehicles. The person directing all the activity was Sze.

That May agents conducted a raid, seizing $3.6 million in cash from various properties in Queens and the Lexus SUV from Sze, according to a forfeiture order filed in court. By the following February, Sze had pleaded guilty to three counts: operating a money laundering conspiracy, running an unlicensed money-transmitting business and bribing bank employees.

That left TD itself in the investigation's crosshairs. Agents had tallied upwards of $57,000 in gift cards handed out by Sze to its tellers as bribes, while nearly three-quarters of the more than $650 million the Sze organization had laundered had moved through the bank. Investigators reached out to the Justice Department's Bank Integrity Unit, which plays a key role in determining whether to bring criminal charges against a financial institution. Prosecutors realized there were already two other massive cases that involved TD, widening the investigation even further.

One of these cases concerned a vast Puerto Rican drug trafficking ring that was employing the Colombian typology. Prosecutors in that case have so far charged at least three TD retail bankers, two from Florida and one from New Jersey, alleging they helped criminals open fraudulent accounts and issued dozens of debit cards to launder $39 million in drug money. The three bankers haven't yet entered pleas and are in talks with prosecutors to resolve the cases against them.

The second case involved a network of jewelry stores and precious-metal wholesalers operating out of Manhattan's Diamond District. Prosecutors allege that this group used bogus gold and jewelry sales to launder as much as $673 million into the financial system, $123 million of which went through TD. Although the group's activity bore several signs of money laundering, investigators found that, instead of inquiring further, TD staff had enrolled the wholesalers in an armored car service to



ANATOMY OF A MONEY LAUNDERING TACTIC

The Colombian typology in an alleged scheme starting in Puerto Rico

Drug money is carried in bags or boxes to Puerto Rican parking lots, malls or restaurants, to be retrieved by money launderers using secret phrases to confirm their identity

Launderers deposit the cash into US bank accounts in multiple tranches of $10k or less to avoid currency reporting requirements

Funds are transferred to "funnel accounts" tied to shell companies, such as YR Autoparts and VIP Motor Store

ATM cards for the accounts are sent to Colombia, then used to withdraw pesos in small transactions

The "clean" pesos are bundled for deliveries arranged over encrypted chats and confirmed using code words and banknote serial numbers

■ PHOTO: FINANCIAL CRIMES ENFORCEMENT NETWORK ■ DATA: US DEPARTMENT OF JUSTICE ensure their cash reached the bank safely.

The consent order between TD and FinCEN lists numerous other instances uncovered by investigators in which suspected criminals used TD. In one case a supposed HVAC company bought hundreds of plane tickets to Turkey and Thailand, paid for immigration services in Suriname and Nicaragua, and made ATM withdrawals in Uzbekistan and Ecuador—all signs it was trafficking in people instead of air conditioners. In another case, an ostensible real estate company stipulated in opening its TD account that annual sales wouldn't exceed $1 million, then proceeded to conduct more than $1 billion in transactions, most of which involved funds flowing from a UK-based cryptocurrency exchange to a Colombian financial institution. Then there were the TD customers engaged in transactions linked to human trafficking at massage parlors; the New York-based religious organization that had ties to terrorist groups and was transacting in West Africa; and the computer manufacturer whose online customer reviews suggested it was actually selling illegal prescription drugs.

TD had been fielding requests from federal investigators for about eight months when executives decided it was a good time to resume the company's US expansion. In February 2022 the bank announced it had agreed to spend $13.4 billion buying Memphis-based First Horizon Bank, touting the deal as an opportunity to grow in the Southeast. But TD needed US regulators to sign off on the acquisition, and as the money laundering investigation grew they made it clear they wouldn't allow it. In May 2023, TD called it off and paid a $200 million breakup fee. Things would only get more expensive from there.

That summer, TD told shareholders it was facing inquiries from the Department of Justice about its money laundering controls. The following April it put aside $450 million for potential penalties, then in August it provisioned an additional $2.6 billion. A month later the bank named a replacement for Masrani. Finally, in October, prosecutors announced TD's historic guilty plea, with a total of $3.1 billion paid to four agencies. Under pressure from law enforcement and regulators, the bank is now also spending about $850 million over two years on improved compliance programs.

Levine has left TD, along with more than 20 others, while the bank has hired 700 new anti-money-laundering specialists and 40 new executives to oversee them. "We continue to make important investments in technology, data, infrastructure, process redesign and training," TD said in its statement to *Businessweek*. The company has also overhauled its board, with five directors plus the chair all set to depart. TD slashed executive bonuses by C$30 million ($21 million) in 2024, and Masrani's pay plummeted by more than C$11 million. "The anti-money laundering challenges we face took place on my watch as CEO and I take full responsibility," he said in a September statement. His successor, Raymond Chun, took over on Feb. 1 of this year, two months earlier than planned.

US authorities have also imposed an asset cap on TD's American retail operations, limiting their size indefinitely. This is among the most feared punishments in banking, and it could hobble the company for years to come. A similar asset cap at Wells Fargo & Co. has been a multibillion-dollar drag on that bank's stock price and earnings since 2018. TD has estimated that, to get under the asset cap, it will have to spend a further $1.5 billion in one-time, after-tax costs associated with selling some of its loan portfolios to other banks and repositioning its US investments.

The prosecutions aren't done. More than two dozen defendants have been charged in Puerto Rico in connection with the Colombian drug case, on top of the three TD insiders facing charges. The statement of facts the bank agreed to says law enforcement has also identified two additional TD retail employees who helped with the Colombian money laundering. Prosecutions against the Manhattan Diamond District ring are still unfolding as well.

The repercussions are rippling across the finance industry. When HSBC Holdings Plc admitted in 2012 that it had failed to maintain an effective anti-money-laundering program, leading Mexican and Colombian cartels to funnel drug money through the bank, it inaugurated a period of tighter oversight and increased compliance spending for many financial institutions. TD has set an even more significant precedent, as the largest bank in US history to plead guilty to monitoring failures under the country's main money laundering law. It's also unique in having pleaded guilty at all: In most previous cases involving large banks, US authorities worked out deferred prosecution agreements, which involve admitting wrongdoing, paying fines, and agreeing to reforms that, once fulfilled, see the charges dropped.

Liz Boison, a former federal prosecutor who's now a banking and compliance partner at Washington law firm Chapman & Cutler, calls the TD case "a watershed moment." Every bank in the US is combing through the filings that came out of TD's guilty plea, she says. If the result is more robust compliance programs across the industry, it could mean convenience is out of vogue at US banks for some time.

For TD the change could be that much harder. The "Most Convenient" tagline wasn't just marketing, says one person involved in the investigation. "It was like a way of life for the bank." Ⓑ

Sze at a TD branch, in an image taken from the consent order the bank signed with FinCEN

CAN AMERICA MAKE DRONES?

THEY'RE GETTING SMARTER, DEADLIER AND MORE INDISPENSABLE, AND ALMOST ALL OF THEM COME FROM CHINA. ONE SILICON VALLEY COMPANY WANTS TO CHANGE THAT

BY DRAKE BENNETT AND ASHLEE VANCE PHOTOGRAPHS BY PHILIP CHEUNG

SKYDIO ENGINEER ANTHONY MORLINO AT A NIGHTTIME DEMONSTRATION

Late last October, two Ukrainian military officers flew to the US to visit the headquarters of Skydio Inc., a Silicon Valley manufacturer of quadcopter drones. Like the machine gun and the tank before them, drones are remaking battle, and since Russia's 2022 invasion, Ukraine has become the world's laboratory for drone warfare. Quadcopters bought for a few hundred dollars and loaded with explosives have been transformed into lethally efficient guided missiles. Ukrainian pilots wearing virtual-reality headsets steer them into combat, stalking and killing Russian infantrymen from above and destroying multimillion-dollar tanks and armored personnel carriers. The Russians have responded with drone units of their own. At this stage of the conflict, the weapons are responsible for the majority of the casualties on both sides.

Ukraine's military goes through unmanned craft at a furious pace. A military-industrial complex of small domestic drone companies, aided by US funds, has sprung up in response, but the country still has to import much of its supply. The two men who came to Skydio's offices in San Mateo, California, were senior officers in the Unmanned Systems Forces, a branch of the Ukrainian military created last year and the first in the world dedicated entirely to such weapons. (Citing security, they asked not to be named in this article.) They were in California to see if Skydio could help them.

The first day of the visit, Adam Bry, Skydio's co-founder and chief executive officer, walked his guests around the company's testing center and research and development labs. Bry (whose name, he explains, is pronounced "like the cheese") is 39, slim and stubbled, with a heavy brow and a deep voice. He favors workout-friendly tees, fitted khakis and running shoes, which prove useful when he takes off sprinting around the parking lot to demonstrate the tracking abilities of one of his quadcopters. On the tour, Bry took the Ukrainians past workstations with designs for drone parachutes and prototypes of concept craft, as well as a robot arm that twirled Skydio drones over a sheet of special QR codes to test the navigation cameras and computer vision. Then the visitors, Bry and a dozen other Skydio executives sat down in a conference room and talked.

↑ BRY

The Ukrainians presented first, describing the myriad roles drones filled for them. "We try to adapt quickly, because we basically don't have any other option," the more senior officer said in rapid, near-fluent English. In addition to single-use "first-person view" craft, the Ukrainians deploy more advanced quadcopters akin to Skydio's to hover above the battlefield as aerial scouts and artillery spotters, or to drop bombs or transport supplies. Long-range fixed-wing drones attack Russian cities, and uncrewed speedboats laden with explosives have ravaged Russia's Black Sea fleet. One newer tactic: using drones to lay land mines along supply routes in Russian territory. "It works because it's a surprise," the officer said. "They just drive, thinking they're safe, and suddenly they're not."

When it was the Skydio executives' turn to present, they ran through a list of the features on the X10D, a variant of their newest drone tailored for military use. The cameras—both visible-light and thermal—had been upgraded, and the airframe was now weatherized enough to operate in moderate rain. The company is particularly proud of the craft's ability to pilot itself, even without a radio connection and without GPS. The drone uses its navigation cameras, at altitudes up to 300 meters, to produce a real-time topographical map of the landscape below, relying on that to fly autonomously if other options fail.

For Skydio the meeting was a chance to get invaluable feedback—and to make amends. As everyone in the room was aware, the company's track record in Ukraine had been disappointing. An earlier Skydio model, built to US Army specs, had been shipped over by the thousands, but many had proved defenseless against the anti-drone radio jamming now routinely used on Ukrainian battlefields. In electronic warfare testing there in March 2024, the X10D had performed better: It successfully operated in the face of radio jamming, GPS jamming and GPS "spoofing" (when false coordinates are sent to the receiver), but it failed when faced with multiple measures at once. "You've been patient with us as we've continued to try and develop our system to be valuable to you, and we appreciate that," said Alden Jones, a Skydio vice president.

All tech startups have growing pains, but the stakes for Skydio are especially high. Bry likes to say drones are evolving "from toys to tools to infrastructure." They've proliferated in the US, despite strict Federal Aviation Administration limits on where and how they can be flown. Outdoor photographers and filmmakers were some of the first to rely on the technology; now firefighters and police officers do, too—in search-and-rescue operations, vehicle pursuits and potentially violent standoffs. Electric utilities send drones along power lines to look for damage, commercial shipowners use them to inspect their vessels, and structural engineers use them to spot warning signs of failure in the country's aging bridges and dams. Amazon.com Inc. is even incorporating them into its delivery fleet.

Some of those craft are being made in the US. Anduril Industries Inc., a new artificial-intelligence-focused defense contractor, produces a few different drones, and its more traditional competitors have manufactured plane-size, unmanned military aircraft for years. Skydio, for its part, is banking heavily on public safety, which it estimates to be a $15 billion market between the US and Canada. Taken together, however, US drone makers account for only a sliver of global supply. The vast majority of the drones in the air today—in the US and everywhere else—are Chinese, most of them made by one company, DJI.

As drones grow more important, Chinese dominance of the industry has heightened concerns about who controls the flows of data they collect—and who ultimately controls the craft themselves. Supply chains, too, can be weapons: Ukraine's military is constantly having to find creative ways to acquire the Chinese drones and components on which its war effort depends, since the Chinese Communist Party, a Russian ally, restricts their sale to Ukraine. In response to all these perceived

↑ ASSEMBLING SKYDIO DOCKS

threats, US state and federal legislators have begun to outlaw Chinese drones for government use. The law authorizing the 2025 US defense budget goes further: It includes broad language that could ban Chinese drone manufacturers from the US market starting at the end of the year.

The rivalry between the US and China looms over America's largest drone maker. The story of how that came to be is a case study in the different trajectories of the two nations' high-tech manufacturing. Skydio has a lot going for it—elite Silicon Valley talent, friends in government and blue-chip venture capital. Yet the lifespan of American drone makers thus far has tended to be short. For Skydio a ban keeping its Chinese competitors out of the US market would be an enormous opportunity. It would also be a test.

Bry descends from a long line of devoted, if earthbound, aviation enthusiasts. He grew up enthralled by his maternal grandfather's stories of serving as a mechanic and crew chief in a World War II B-17 bomber squadron. Bry's father, Doug, a public defender who taught himself to write trading software and became a professional money manager, flew radio-controlled airplanes in his spare time. Father and son would spend their evenings at the model airplane field in Chatfield State Park in their hometown of Denver. "I'd pick him up from school with the car loaded up with airplanes, and we'd go and fly until dark, day after day," Doug recalls.

By high school, Adam was traveling to compete in, and often win, national and international radio-controlled aerobatics competitions, where pilots are judged on how precisely they take their planes through a complex choreography of loops and rolls. "It's a little bit like figure skating," he says. He obsessively customized his planes, trimming their foam filling to lighten them and weighing each piece of balsa wood. One of his favorites was a Russian-made Yak 54 with a 6-foot wingspan. Today it hangs from the ceiling in Skydio's offices, along with several of Bry's other competition planes.

For college, Bry turned down Princeton University for the Franklin W. Olin College of Engineering, a tiny school just outside Boston that boasts a radically hands-on curriculum. The college has since developed a reputation in Silicon Valley, but when Bry matriculated in 2004, it had yet to have a graduating class. He found it thrilling that everyone, students and faculty, was taking a risk on the place.

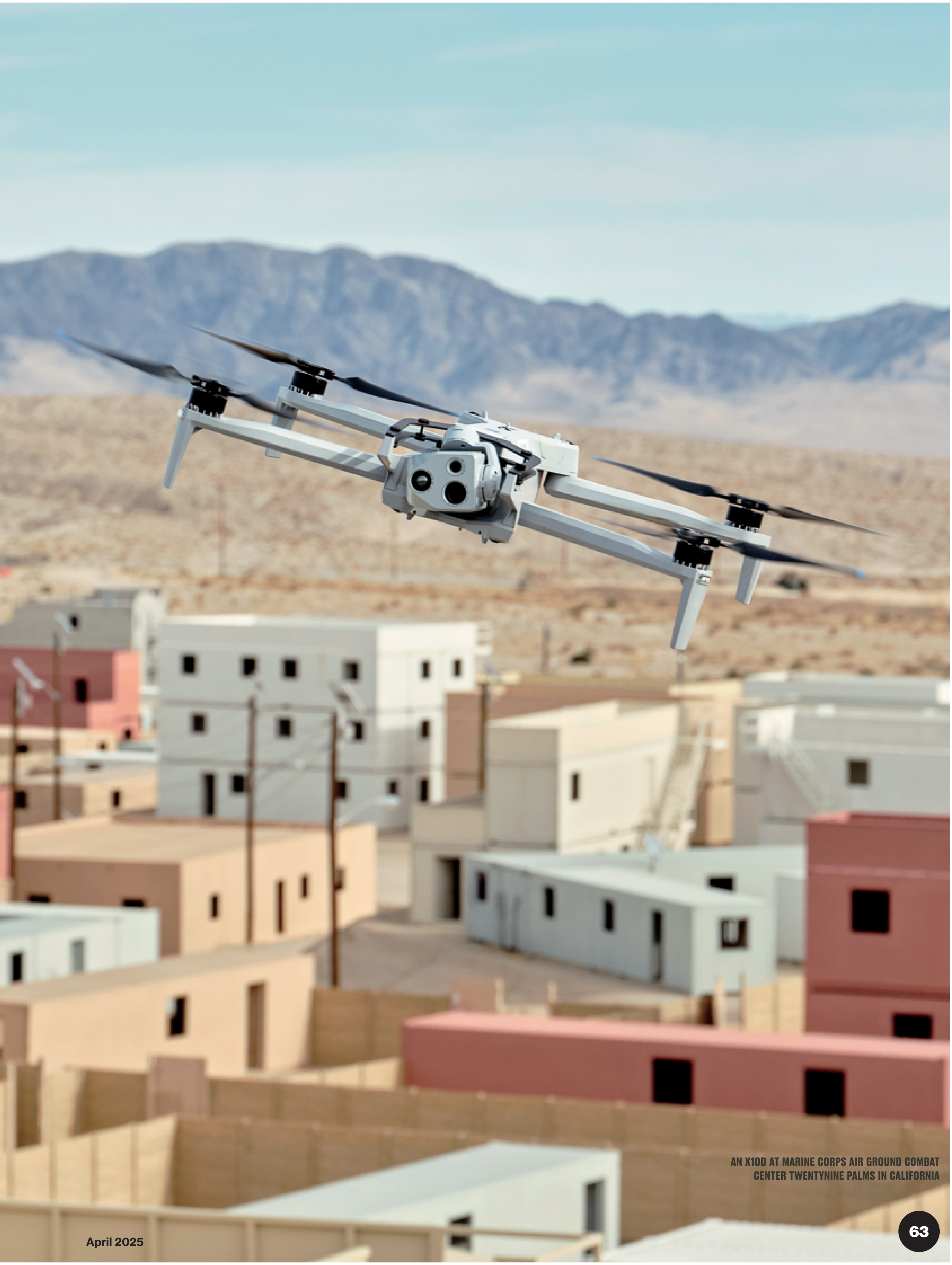
Afterward, Bry went to the Massachusetts Institute of Technology, where he studied in its Department of Aeronautics and Astronautics. There's a short 2012 video still available on YouTube that succinctly sums up his master's research there. In the clip, a superlight plane, using a laser range scanner as its eyes and an Intel netbook processor as its brain, pilots itself in a series of increasingly complex environments. Roughly the dimensions of a Yak 54, the plane circles an indoor track and the atrium of a classroom building, then slaloms gracefully through the columns of an underground parking garage.

The success of the self-flying plane, and the connections Bry made at MIT, led to a job at Project Wing, a drone delivery effort that was one of Google's whimsical "moon shots." Wing was part of an emerging industry that used sensors and processors small enough to go into smartphones to build fundamentally different devices than the fixed-wing "hunter-killer" drones large defense contractors were making. Other US companies, such as 3D Robotics, sold quadcopter kits to early adopters; the French company Parrot Drone SAS introduced the first drone you could control with your phone. And at the Hong Kong University of Science & Technology, a graduate student named Frank Wang started a company called Da-Jiang ("Great Frontier," in Mandarin) Innovations.

SZ DJI Technology Co. would own the transition from toys to tools. The company started out making control units for do-it-yourself hobbyists, and then in 2013 it released a drone called the Phantom you could fly right out of the box. The Phantom was durable, intuitive to control and smooth enough in flight that you could get professional-quality footage by mounting a GoPro camera on it. DJI started making its own high-performance drone video cameras and gyroscopic gimbals to stabilize them, and it drove improvements in battery life and signal strength that allowed each new model to fly farther and longer.

When cops and engineers started experimenting with how they might use drones at work, those were DJIs; the ▶

“DRONES ARE REALLY IN THEIR INFANCY”



AN X10D AT MARINE CORPS AIR GROUND COMBAT CENTER TWENTYNINE PALMS IN CALIFORNIA

◀ company's products are workhorses in both the Ukrainian and Russian fleets. Ted Strazimiri, a Canadian who runs a drone-services company and is something of a drone influencer, sums up the appeal of the brand this way: "A DJI is like an AK-47. Simple and reliable."

DJI models also tend to be much cheaper than their non-Chinese competition. That reflects efficiencies of scale and the company's mostly automated assembly line, along with the lower cost of skilled labor in Shenzhen, where its offices and factories–and the offices and factories of many of its suppliers–are located. DJI enjoys other advantages, too. In 2015 the Chinese government issued "Made in China 2025," an ambitious 10-year industrial policy plan to move the nation's economy beyond low-cost manufacturing and into high tech. Among the 10 sectors named in the plan were robotics and aerospace (with a specific mention of unmanned aerial vehicles alongside planes and helicopters). That entitles Chinese drone companies such as DJI and its newer competitor, Autel Robotics Co., to research partnerships, grants, low-cost loans and targeted investments from state banks and CCP-connected investment firms.

Meanwhile, Bry almost immediately grew restless at Wing. In 2014 he left to start Skydio with Abraham Bachrach, a co-creator of the MIT self-flying plane, and Matt Donahoe, another MIT and Olin College alum. The three founders envisioned a craft that could fly itself, allowing it to be operated by a novice, or by a user whose attention was occupied with, for example, biking cinematically down a mountain or surviving a firefight. Or operated by no one at all. Its autonomous capabilities could eventually graduate to far bigger aircraft. That argument persuaded the venture capital firms Andreessen Horowitz and Accel Partners to offer seed funding. Chipmaker Nvidia Corp. also signed on as an investor, seeing a promising application for robotics-friendly computing platforms it makes.

In 2018, Skydio introduced its first product, a "follow-me" consumer drone designed to document video-friendly outdoor sports. The R1, as it was called, had a pair of rectangular frames, embedded with navigation cameras, running around its four rotors, and it didn't come with a controller. Users launched it instead with a smartphone app, after which it zeroed in on and trailed them. Tech reviewers were deeply impressed with the R1's ability to film while avoiding tree branches, light poles and low archways. They also tended to mention its cost–$2,499, twice as much as corresponding DJI models loaded with advanced features.

↓ BRY OPERATES AN X10 AT SKYDIO HEADQUARTERS

In late 2019, Skydio came out with the Skydio 2. It was smaller and sturdier than the R1, with even better obstacle avoidance, and it cost only $999. Users could pay extra for a controller–either a traditional two-stick one or a wand like a Nintendo Wii's.

Even at that price, though, Skydio failed to gain traction against DJI and Autel. "The company was kind of in this limbo state," Bry says. "Everyone thought the tech was really cool, but the business wasn't working." Other US drone makers were failing: 3D Robotics stopped making drones in 2016, and Lily Robotics went bankrupt in 2017. Airware ceased operations in 2018, the same year GoPro discontinued its drone, the Karma, brought to market only two years earlier.

Skydio stayed off that list thanks, in part, to geopolitics. The rise of drones has coincided with the worsening of relations between the US and China. For the Pentagon, the danger of relying on a potential adversary for weapons technology–especially technology that's coming to have a mind of its own–is self-evident. Guidance jointly published in 2024 by the FBI and the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency warned that Chinese drones "continue to pose a significant risk to critical infrastructure and U.S. national security." In addition to the potential ban Congress wrote into this year's Pentagon appropriations bill—which declares that, unless an "appropriate national security agency" determines sometime this year that DJI and Autel drones are not national security risks, the companies will be forbidden from selling any new products in the US—the Department of Commerce is considering its own restrictions on Chinese drones.

Although many of the details are classified, the broader concern is that Chinese drones could become a crowdsourced spy fleet, transmitting video and location data of potentially sensitive areas back to their manufacturers and thereby to the CCP: Chinese law mandates that companies there assist the country's intelligence services if asked. At the more speculative end of the spectrum, there are worries that even the movements of Chinese drones might not be entirely under the control of their putative owners.

DJI vehemently denies that its drones present a specific security risk. "We've never had a request under the Chinese National Intelligence Law," says Adam Welsh, the company's global head of policy. He points to cybersecurity audits by Booz Allen Hamilton, FTI Consulting and the US Department of the Interior, among others, that DJI drones have passed. The company now offers a special "local data mode," where its drones don't connect to the internet and, Welsh says, DJI no longer stores the flight logs of its US users. "We've always been open to scrutiny," he says. "Any agency that wants to look at our products, they can just do it on their own if they want, or if they want collaboration from us to make it easier for them, we're happy to collaborate."

For Skydio these fears have been a boon. In 2020, the year Congress ordered the Pentagon to stop buying Chinese drones, the company came out with its X2, a folding drone whose camera, battery and transmitter were all marked improvements over its previous models. Skydio marketed the X2 to police and fire departments, the US military, utilities and other businesses—customers that prioritize cybersecurity in a way most BMXers and snowboarders don't and for which the X2's $10,999 price tag wasn't prohibitive. In 2023, Skydio announced it was dropping out of the consumer drone business entirely to focus on enterprise and government.

Skydio now boasts of having 650 public-safety agencies as clients, helping drive its nine-figure annual revenue ("with rapid growth"). At its most recent user conference, held in late September 2024 at a resort just outside Santa Cruz, California, Bry unveiled improvements to the X10, whose price starts at $12,000 and can easily be twice that. The big announcement, however, was the Dock, a drone-hangar-cum-launchpad resembling a space-age patio grill. Today most drones are launched by hand. The promise of the Dock, with a battery charger and a retractable, weatherproof cover, is that they won't have to be. In pilot programs in New York City, Oklahoma City and Las Vegas, Docks installed on the roofs of police precinct houses and fire stations have allowed Skydio drones to launch within seconds of a 911 call to assess a potentially dangerous situation before human first responders arrive on the scene. (Skydio is hardly alone in seeing this future—other drone makers, including DJI, sell similar products.)

As they go into production, Skydio's docks will be made across the San Francisco Bay from the company's San Mateo headquarters. There, set among body shops and countertop-stone showrooms in the city of Hayward, is a 60,000-square-foot space spread over two buildings. That's where 210 Skydio production workers build X2s and X10s, assembling gimbals and cameras or attaching the different drone subassemblies—arms, chest, canopy, core—using special power screwdrivers that precisely measure torque and count turns and cost thousands of dollars apiece. The factory, as its output grows, is being tweaked to wring out production bottlenecks and errors, but also weight, which, for battery-powered aircraft, means more flight time per charge. One of the newer machines on the factory floor is an ultrasonic welder that makes X10 arms by fusing together two pieces of plastic, saving the few grams that clips or screws or glue would add.

After they've been assembled, the drones are strapped into cages along the soundproofed walls of the "burn-in" room, where they run at full throttle for half an hour while their temperature and electrical current draw are monitored for evidence of defects. All in all, the drones undergo about 550 different tests. In the final one, they take themselves through a flight test in a room with a foam-padded floor. In one corner stands a mustachioed mannequin in a fright wig that the drones must be able to lock in on to verify that their "subject-detection" system works.

As in most disciplines, the key to manufacturing is practice. In the 1920s and '30s, an aeronautical engineer named Theodore Wright noticed that, as factories made more planes, their production costs steadily declined by a calculable percentage. In the years since, researchers have found the relation to be widespread and persistent, though the shape of the curve varies among industries. The dynamic is now referred to as Wright's law. A challenge for Skydio is that its biggest competitor is a lot further along Wright's curve. Skydio has produced a total of 45,000 drones; DJI doesn't release numbers, but in all likelihood it makes that many every few weeks. The American company is doing whatever it can to close the gap: Engineers in its San Mateo offices use a CT scanner to X-ray DJI drones to see how they're made.

A ban on Chinese drones could help Skydio get even more practice building devices for US customers. Bry has been vocal about what he sees as the risks of Chinese drones. As he told a congressional select committee last year, "it would be completely insane to accept a future where we depend on our geopolitical adversaries to supply these drones."

Bans have proven deeply controversial in the American drone community, and some of the anger they inspire has been directed at Skydio. "I work at a small department and cannot afford Skydios prices," writes one commenter on the ▶

◀ website DroneXL. “We can afford DJI and use these products regularly to assist in lost or injured hikers, area surveillance for events and other uses. I can tell you this, I will build my own drone from parts before I spend a dime with any Drone company that uses lobbying to keep their competition away at the expense of getting affordable tools into the hands of underfunded police agencies.”

Bry walks a fine line on the subject. “We’re trying to be the most reasonable voice in the room,” he says. He argues that any transition should be gradual and that government agencies forced to jettison DJI drones should get extra funding to replace them—public money that would be spent, at least in part, on Skydios. So far at least, that funding hasn’t been forthcoming. In contrast with the CCP, with its grants and loans and R&D subsidies, the US government has, for the most part, opted simply to clear the field for non-Chinese drone makers and to trust the market to take care of the rest.

The drone trade wars show no sign of waning. Last fall the Chinese government placed Skydio on its so-called unreliable entity list, cutting the company off from one of the few components it still sourced from China: batteries. The ostensible reason for the sanctions was that Skydio sells drones to Taiwan’s National Fire Agency, but it was widely seen as retribution for US export controls on advanced semiconductors and other technologies to China. The company was already working to source its batteries from non-Chinese suppliers, Bry says, but in the meantime it has had to ration them, sending out just one per new drone. A few months later, DJI announced its latest firmware update in the US would remove geofencing around military bases, airports and other FAA-determined no-drone zones. It would be up to users themselves to decide whether they’d follow US law. According to Welsh, DJI’s head of policy, the change had been in the works for a while and was driven in part by public-safety users who needed to fly their drones in exactly those areas.

On Nov. 5, Election Day, the brightest hopes of America’s drone industry were gathered in the Mojave Desert at the Marine Corps Air Ground Combat Center. Like the adjacent city, the base is known, informally, as Twentynine Palms, and it lies a 2½-hour drive due east from Los Angeles, the last few miles along a road lined with barbershops specializing in high-and-tight haircuts. It’s one of the biggest military training facilities in the world. Outside the main camp, with its neat homes, movie theater and a Popeyes, the vast majority of the 1,100-square-mile expanse is empty desert. Artillery blasts echo off the hillsides, and at night phosphorous flares bloom above the horizon. The air is busy with manned aircraft: tilt-rotor transports making slow turns, A-10 Thunderbolts climbing sharply out of strafing runs and supersonic fighters performing aerobatics in the upper sky.

For the US military, getting a new technology into the field takes several years, at best. While that might feel appropriate for an aircraft carrier, small drones evolve over a timescale of months, so the military’s cumbersome “program of record” process ensures that new systems are years out of date by the time they’re deployed. For instance, the RQ-28A, a specialized Skydio X2 that won the Army’s short-range reconnaissance contract in 2022, was made, as per the terms of the contract, with only a single-band radio. That’s what rendered the ones sent to Ukraine particularly vulnerable to Russian jamming. More recent X2 and X10 variants developed for military use have multiband radios and automatically switch to a different frequency band when they’re jammed.

Scale is the other problem. Military strategists who focus on drones talk about “attritable mass”: In the future, they argue, war will be waged not by nine-figure next-generation aircraft but by ones that are cheap enough to be disposable. These drones won’t be flown one-on-one, as they have been in Ukraine, but in swarms that overwhelm an enemy’s defenses in self-sacrificing attacks. Eventually they may coordinate themselves, using AI, like murmurations of killer starlings.

It’s an ethically fraught prospect, and a terrifying one. It also would require lots of drones. According to Trent Emeneker, a program manager for the Pentagon’s Defense Innovation Unit, at the attrition rate currently observed in Ukraine, the US military would exhaust its entire drone supply in five days. “Program-of-record drones are not delivered in great quantities,” he says. Nor, he says, are they characterized by “great qualities.” (The problem isn’t limited to drones, Emeneker points out. The military’s cumbersome procurement process has also hampered efforts to ramp up production of a far older weapon—artillery shells—to replace those sent to Ukraine.)

In recognition of these shortcomings, the Pentagon in 2023 launched Replicator, a program to accelerate the pace of its drone development. At the same time, it started doing something simpler: allowing military units to go out and buy off-the-shelf drones from a white list of approved devices. Emeneker, a former Marine aviator, is in charge of putting together the latest version of the list, called Blue UAS. (“Uncrewed aerial systems” is military nomenclature for drones.)

The flight tests at Twentynine Palms were part of the approval process. Skydio and more than 30 of its competitors, including Parrot Drone, Shield AI and Anduril, were there. Much of the testing took place at a sprawling urban terrain combat range set against a broad, rocky hillside. Its 1,500 empty buildings were mostly bare concrete with window-shaped openings, giving it the feel of something half-built and then abandoned to the desert. There was a mosque, a market filled with dusty plastic produce and burned-out cars in the streets.

Military drone operators had been brought in as evaluators. Uniformed soldiers, sailors, airmen and Marines, and special forces operators in civilian tactical clothes rotated between the rooftops and dirt intersections where different drones were being launched, asking questions about payload, jamming and autonomy. “Customer success” representatives from the companies demonstrated the products, showing off their range and the video footage they took.

One of the evaluators was Corey Solorzano, an Army staff sergeant and air reconnaissance specialist in the 101st Airborne Division. Solorzano flies and trains other soldiers on his

↑ ARMY SERGEANT FIRST CLASS ANTHONY CLARK, STAFF SERGEANT SOLORZANO AND SKYDIO'S MORLINO AT TWENTYNINE PALMS

brigade's drones, which include, along with the Skydio RQ-28A, some smaller and larger quadcopters, and the AeroVironment Switchblade, a "one-way" drone with a warhead, launched from a mortar tube. Solorzano said the new Skydio's camera capabilities were "leaps and bounds" better than what he was accustomed to. He especially liked the ease of control. "Even someone who doesn't have the aptitude to fly these drones, they could just grab the controller and do it," he said. After sundown there was a night test, and Solorzano and others took turns flying the X10D, invisible with its lights off, down one of the range's dark streets, seeing themselves show up on the thermal camera when it turned back around to face them.

A little more than three months later, in mid-February, the Pentagon announced the new Blue UAS list, and Skydio's drones were on it, as expected. But the company's preeminence hasn't gone unchallenged, even among US drone makers. Just before Thanksgiving, the Army awarded its short-range reconnaissance UAS program contract—the same one Skydio won in 2022—to a smaller US drone maker called Red Cat Holdings. Asked about that a few weeks afterward, Bry was philosophical, and diplomatic, congratulating his competitor.

The accelerating churn of world events has hit close to home for Bry's company. After the Unmanned Systems Forces officers visited San Mateo, the company heard back that the X10D aced its latest electronic warfare test in Ukraine. And yet, with the Trump administration determined to bring the war to some kind of close, Ukraine may be less able to buy US-made drones—its own industry might need to start exploring markets elsewhere. And on March 4, Skydio found itself caught up in President Donald Trump's trade war, too: In retaliation for his administration levying a 20% tariff on Chinese imports, the Chinese government placed 15 US companies on an export control list. One of them—somewhat redundantly, since it was already on a different Chinese sanctions list—was Skydio.

Bry believes the most exciting near-term possibilities for his company are closer to home, as more and more cities buy X10s for their police and fire departments. Six weeks before the Twentynine Palms tests, he was sitting on the patio outside his hotel room at the company's user conference, on a cliff overlooking the Pacific. "I think drones are really in their infancy," he said. They are becoming intelligent actors, fulfilling their responsibilities on their own, regularly buzzing up from their rooftop docks to patrol a perimeter or look for smoke along a transmission line or otherwise monitor us from above. "You're using software to define where you want those things," he said. "You can just say, 'I want a camera right here at this moment in time three times a week,' and it just happens." Skydio was already "being deployed for all these critical industries, and it's almost all behind the scenes," Bry said. "It's sort of like infrastructure." Ⓑ

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HIGHER ED ON THE BRINK

Escalating costs, controversial protests and the lingering effects of the pandemic put US colleges into a tailspin in the 2023-24 school year. None of those issues has been resolved–and they're facing a new wave of troubles. Now the biggest threats are coming from Washington, as Donald Trump's potential funding cuts threaten to upend research, freeze hiring and roil student aid. Meanwhile, campuses–long the epicenter of the culture wars–are trying to navigate MAGA, inflation and AI. As more students question whether degrees are worth the debt, college is at a crossroads.

■ PHOTO: ■ DATA:

KEEP AUSTIN…

CONSERVATIVE?

The flagship public university campus in Texas has been changing, and the rest of the country might be following its lead

By Rachel Monroe

Illustration by Callum Rowland

GRAYSON OLIVER CAME TO THE UNIVERSITY OF TEXAS AT AUSTIN three years ago as a freshman. A closeted queer kid from a small, conservative community near Fort Worth, he was one in the long line of students who've flocked to this quintessential college town, for decades considered a mecca for slackers, misfits and artists. And, like many students before him, Oliver blossomed on campus: He came out, joined student government and found a close circle of friends.

It was a sunny winter day when we spoke—crop-top weather in February—and all around Oliver, students lounged on a grassy quad, headphones over their ears, scrolling. But the bucolic scene belied an underlying malaise at Texas' flagship university, Oliver told me, a pervasive atmosphere of anxiety and confusion. "There's a lot of uncertainty right now," he said. "It's sad, and it's hard."

Austin is still in many ways an exemplar of American college culture, but in a way that runs counter to the free-spirited experimentation that's been the norm in higher education.

As a public university, UT-Austin is under the control of the state legislature. In an effectively one-party state like Texas, that means it's under the thumb of Republicans, who are bent on changing what they see as woke college campuses. At the behest of the legislature, UT shuttered its diversity, equity and inclusion programs a full year before Donald Trump returned to the White House. (More than a dozen states have since passed similar laws.)

Scores of staff members, some of them with decades of service to the university, lost their jobs. Long-standing traditions, such as the bilingual graduation ceremony for students from Spanish-speaking families, were canceled. The administration defunded, at the state's behest, the Asian/Asian American Faculty and Staff Association, a mentorship program for Black and Hispanic women and another that helped undocumented students negotiate the college experience. One of the 10 biggest universities in the country no longer has a dedicated center supporting LGBTQ students. Student-run groups have attempted to pick up the slack, but because they're banned from receiving any university funding, they've found themselves scrambling for resources. "We're losing so many programs," says Elizabeth Tomoloju, a junior from Dallas. "Students are a lot more careful about what they say and do, because they don't know what's allowed anymore."

The world of higher education increasingly seems like a winner-take-all system at all levels. Big state schools suck up the air in the room. Mirroring national trends, UT-Austin received a record number of applicants last year, while Austin's smaller, private schools—including the Catholic St. Edward's University and Huston-Tillotson, a historically Black university—are struggling with declining enrollment. The pandemic has accelerated these enrollment trends, but even before that there was a growing political gap in how the left and right perceived higher education. A 2019 Pew Research Center poll showed that Republicans increasingly saw colleges as having a negative effect on society. It's maybe not a surprise then that Republican leaders in Texas are threatening to withhold almost $40 million from ▶

◀ UT, because they say the unwokening process hasn't gone far or fast enough. At the same time, the university is now home to a conservative think tank, the Salem Center for Public Policy, and the Population Wellbeing Initiative, an Elon Musk-funded project to study falling birth rates, one of his pet issues.

Texas is leading the way on another big threat to the norms of higher education: The legislature has set its sights on eliminating tenure. (Professors with tenure "feel immune to oversight from the state legislature," Lieutenant Governor Dan Patrick has complained.) This, along with UT-Austin's approach to student protest, where students staging a walkout last spring to decry the war in Gaza were met by a phalanx of state troopers in riot gear, has made for an anxious campus. FIRE, a campus speech organization largely known for defending conservative professors, decreed that UT was one of the worst universities in the nation for free speech, largely owing to its attitude toward student protest. "You know those dogs in shelters that don't want to be pet because they've been abused in the past? That's what it's like here—people are just scared to do anything," one student activist told me.

Meanwhile, the city surrounding the university is changing, too. Austin was once known for its low cost of living and casually creative atmosphere. These days, rents are up dramatically and tech bros crowd the coffee shops. The city's reputation as a blue dot in a red state is increasingly precarious; the right-wing heterodox crowd has flocked here, with Musk and podcasting king Joe Rogan joining ultraright radio host and longtime Austinite Alex Jones. In keeping with its general tendency toward educational separatism—Musk is funding his own school near the SpaceX offices outside Austin—the growing conservative cohort has established a postsecondary option, too: the fledgling (and unaccredited) University of Austin, founded in 2021 by a group including columnist Bari Weiss and historian Niall Ferguson. Last fall the school welcomed the 92 students of its first class to a campus that occupies a floor in an art deco building downtown. The aesthetic is self-consciously and expensively Old World. On a recent visit, students nestled in worn leather club chairs, frowning in concentration over a game of chess.

Some parts of UT-Austin are flourishing—namely its sports and business programs. No wonder, then, that some influential alumni and donors seem to prefer that the university be nothing more than a branded business incubator with an athletics program attached. UT-Austin recently dedicated tens of millions of dollars in seed funding to startups developed on campus. And, since new NCAA rules were adopted allowing college athletes to profit from their name, image and likeness, recruiting top prospects has become a multimillion-dollar endeavor, with UT football reportedly shelling out more than anyone else. (It's still technically forbidden for a school to pay college athletes directly, but during the same session that Texas lawmakers banned DEI, they also made it easier to skirt NCAA rules. UT says it complies with all NCAA and SEC rules.) As sports become more fundamental to many schools' enrollment push and fundraising, it's no wonder that many big state schools, UT among them, spend more on athletics than academics.

Today's UT undergraduates were teenagers during the pandemic lockdowns, and they've matriculated into a world that's no less fraught. But there might be an upside. Tomoloju, the junior from Dallas, has an internship in Washington, DC, this semester. She says her experiences at UT have given her an unexpected advantage: Unlike some of her colleagues working on Capitol Hill, she's not shocked by the tactics of the Trump administration; she's seen them, or something like them, on campus. In that way, she's perhaps better positioned to imagine change than older UT grads, who came of age in a collegiate world that might not exist anymore. "All that stuff that's happening with the federal government—that happened [in Austin] first, and we dealt with that," she says. "There are people who are not happy with what's going on, and we are fighting it."

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BECAUSE THEY DON'T KNOW WHAT'S ALLOWED ANYMORE"

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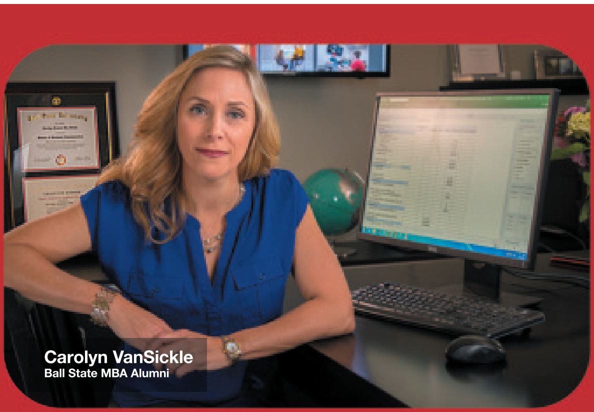

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CRISIS MANAGEM

ENT 101

College presidents and chancellors coast to coast agree: Higher ed needs to tell its story better, and fast

By Anne Riley Moffat and Brad Stone

Photograph by Maegan Gindi

From left**: Linda Mills**, president of New York University in New York City; **Marc Parlange**, president of the University of Rhode Island in Kingston; **Kevin Weinman**, president of Marist University in Poughkeepsie, New York; **Anne Harris**, president of Grinnell College in Grinnell, Iowa; **Justin Schwartz**, chancellor of the University of Colorado Boulder

Is there a worse time to be a college president? As public opinion on higher education continues to sour and the Donald Trump administration threatens huge spending cuts, to say nothing of roiling protests or crippling sticker shock, campuses are on edge. *Bloomberg Businessweek* sat down with decision-makers at five top-ranked US schools—NYU's **Linda Mills**, Grinnell's **Anne Harris**, University of Colorado's **Justin Schwartz**, University of Rhode Island's **Marc Parlange** and Marist's **Kevin Weinman**—to hear how they're navigating a potential funding crisis and selling the value of a degree in today's polarized landscape. The conversation has been edited for clarity and length.

What's the thing that has surprised you most about being a college president?

MILLS: Before I became president, I was in senior administration for 20 years. I did crisis response the whole time. I feel very grateful for that.

HARRIS: What has surprised me is the familiarity of crisis. I was surprised to recognize it: "This feels like the pandemic; this feels familiar."

The Trump administration is casting a shadow over all of business, and universities are no exception. If the federal government follows through on its threat to pull back funds from higher education, what will happen?

SCHWARTZ: Business needs a supply chain, and one of the most important elements of the supply chain is human resources. If we're undermined and that supply chain of talent gets cut off, how do we continue to stay ahead of China and India and Germany—allies and countries that we don't consider allies? We're all in economic competition.

HARRIS: This feels like it's existential, because of the scale of the funding. Why would you want to lose the talent development of this country? That to me would be the plight that I would bring to the administration.

Are we looking at the possibility of mass layoffs across college campuses or reduced student loans?

PARLANGE: There was a proposal at one point to lower overhead on NIH [National Institutes of Health] grants. These proposals that come out, which are quite brutal and massive cuts, will be quite frankly devastating to the 200 top research universities in the US, let alone the nation. This cuts across the entire country.

WEINMAN: The vast majority of the colleges in this country are already struggling, and those that are well-resourced are putting all their resources to use. We're nonprofits; we don't have large margins. Anything that happens that curtails revenue is going to result in cuts and reductions and the shrinking of our mission. That's exactly the wrong thing for this country at this point in time.

What are you doing to address the increasing number of people questioning the value of college?

MILLS: There's no question that Americans still believe that higher education is the road to the American dream. Now the question is: How do they see themselves in education? That is where we have fallen short as an industry.

SCHWARTZ: It's not a coincidence if you think about where the hubs of economic advancement are in this country. They all happen to be right by great universities. It's not a coincidence where Silicon Valley is.

Republicans complain that liberal arts have become too liberal, that conservative voices are silenced, that the academic environment has skewed too far left. What do you think?

WEINMAN: We're very committed to inclusion and belonging. It's very troubling to me if half the country doesn't believe that that means them. We're fighting against the perception that 4,000 colleges and universities in the country are only for half of the political ideology. We absolutely have to take it seriously and address it and speak differently to half the audience.

SCHWARTZ: So many students have gone through land-grant institutions, supporting the agriculture industry, which is not an industry that's considered left-leaning. I get criticized for having Lockheed Martin at my career fair, not by the right, but by the left. We are truly content-neutral in our approach. We are passionate supporters of free speech within the context of what has been allowed by the courts. So the idea that we are too left or too this or too that is really more of a tool than a reality.

Let's talk about affordability. Is college too expensive?

WEINMAN: This is where one of the central tensions is. The best thing that we can do to improve outcomes is to invest in the student experience—and that's spending money. That puts pressure on tuition. Higher ed's challenging, because it's expensive on paper but it's a tremendous return on investment. We have to find this balance around investing as much as we can in the student experience without pricing ourselves out of getting talented students.

HARRIS: There's an incredibly diverse ecosystem of higher ed when it comes to its financial models and how it even makes education possible. With the $2.6 billion endowment Grinnell has, it's really about where we put those resources. When I came in, we decided to go no-loan. We've been able to drive down the average student loan debt. The average national student loan debt is about $35,000; ours is at $15,000.

How has the Supreme Court ruling on race affected your freshman class this year?

MILLS: It had an impact, and it changes the complexion of our campus. We've had the privilege of having 20% first-gen students and 20% international students; we're already incredibly diverse. Now the question is: How do we stay committed to these other values? Our task in this country is to be the optimists, the people who can help the neediest in our country see themselves in our future.

> **“OUR TASK IN THIS COUNTRY IS TO BE THE OPTIMISTS”**

WEINMAN: We’re always going to be focused on our mission, and part of that mission is making ourselves, our institutions, accessible to students with talent and promise. We have to adapt to the rules as they change around us. We decided to focus last year on talented students from lower-income families. As our Pell Grant numbers went from 16% to 21% in one year, our students of color went up about 3 percentage points. We follow the law, and we always will, but we’re always going to be focused on making Marist accessible to a broad audience.

What do you make of the drop in male enrollment? The gender splits are approaching 40-60 at some colleges.
MILLS: You have to look back at K-12, and we’re seeing such painful progression for boys. We really need to stay focused on this. Of the top 10% of public high school students, two-thirds of the people are girls. Bottom 10%, two-thirds are boys. We have a serious problem in this country, and we have not paid enough attention to it. We need to make changes about how boys and men experience education. It’s really urgent.
SCHWARTZ: What is the cultural image of a successful male that’s being projected to a K-12 male? That’s the fundamental question. We have done an amazingly great job over decades of redefining the image of a successful female. But we’ve also seen evolution in what the image of a successful male is. Toxic masculinity doesn’t start on college campuses.

Are test scores like SATs making a comeback in admissions?
MILLS: Not for us. Our research shows that, as they progress through NYU, those who took the test and who didn’t take the test are completely the same. It’s not an indicator.

If the Trump administration disrupts immigration, how do you see that affecting the makeup of your student body?
PARLANGE: We are strong in the US for research because we are attracting these incredible people—that is the beauty of the US system, which the rest of the world wants to copy and cannot copy. But some countries, like China, have done an excellent job catching up. In the ’80s, ’90s, we didn’t think they were going to do it. It’s a different game today. You just have to look at research publications. The US was always at the top. We’re not at the top anymore. Now it’s China. It’s completely shifted, and if we give this up, I think we’ll lose a lot.
SCHWARTZ: For this fall, the fundamental question is what the staffing levels will be at embassies around the globe. One could undermine international students without any fanfare simply by de-staffing embassies, so it just takes longer to process visa requests. So far, we haven’t seen applications drop. But to go back to the conversation we had in the beginning, how does a country of 350 million compete with a couple countries of more than a billion? A really good approach is to steal their smartest people and keep them here. Now we have to encourage international students, “Maybe don’t go home for the vacation,” because we don’t know what the return situation is going to be.
WEINMAN: We talk all the time about the importance of study abroad, but bringing students from outside the US to our classrooms is just as important. There is a real risk that the US is not seen as a friendly, welcoming place for students from around the world.

Will US colleges be recognizably the same in 50 years? What will be the biggest difference?
MILLS: Technology is really what we need to be looking at. That’s going to be transformative. We’re not exactly clear what that looks like, but we need to start thinking about it. It’s one of the most urgent, pressing questions in higher education today. We’re in the process of thinking through how we think about that. Announcements to come.

What makes you despair about the future of higher ed?
WEINMAN: The thing that’s disheartening is a perception that we are no longer meeting our promise at a time when I know that we are.
MILLS: Every single day, thousands of NYU students are in classrooms confronting and grappling with really hard topics across a variety of viewpoints. The depressing part is we need to figure out how to get that story out.

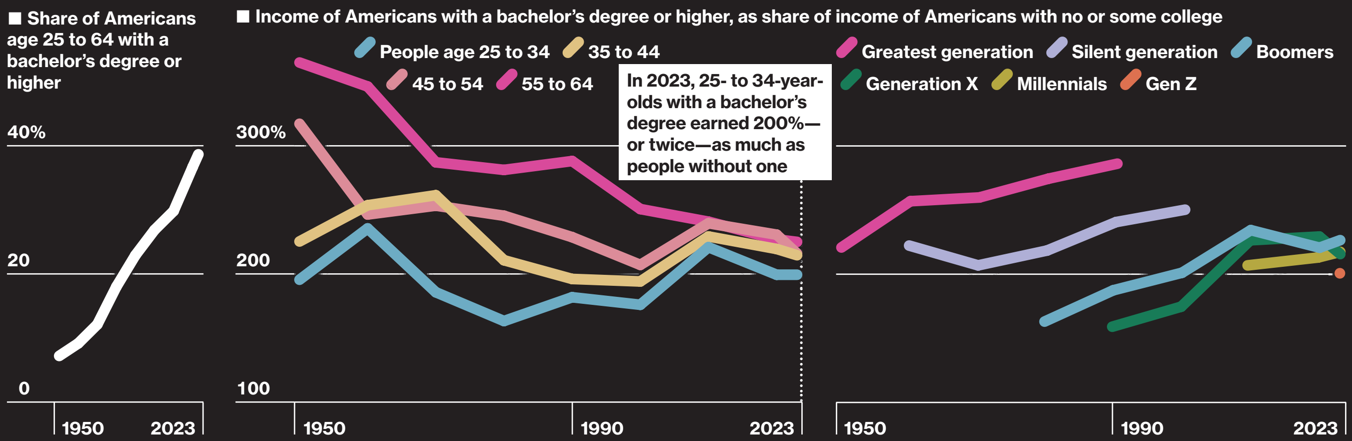
What makes you the most hopeful?
PARLANGE: You will see students who’ll major in mechanical engineering and also major in jazz trombone. They will do plant science, and they will do visual arts. They will finish in four years, and somehow they also had a job, and they also played on the hockey team.
SCHWARTZ: Students are amazing.
HARRIS: We can talk about 12th century theological debates that got really messy, so knowledge has always been a contested space. But the thought that right now, over 100,000 students from our five schools alone are in the process of discovery, a process of collaboration—that gives me tremendous hope. Hope for cancer research, hope for democracy, hope for all the things that we care about. —*With Janet Lorin and Caroline Gage*

■ PREVIOUS SPREAD: PROPS AND SET: COLIN PHALEN

YES, THAT DEGREE IS STILL WORTH IT

The US higher education system—a complex web of public and private colleges and universities bestowing bachelor's degrees—has long been considered the best in the world. Fueled in part by the GI Bill, college became the engine of class mobility in the 20th century. But with student debt ballooning, prospective students and their parents are beginning to wonder: Is that all still true? Crunching the data, it's clear college degrees still matter—but to different extents, and to different groups, than in the past. —*Dorothy Gambrell*

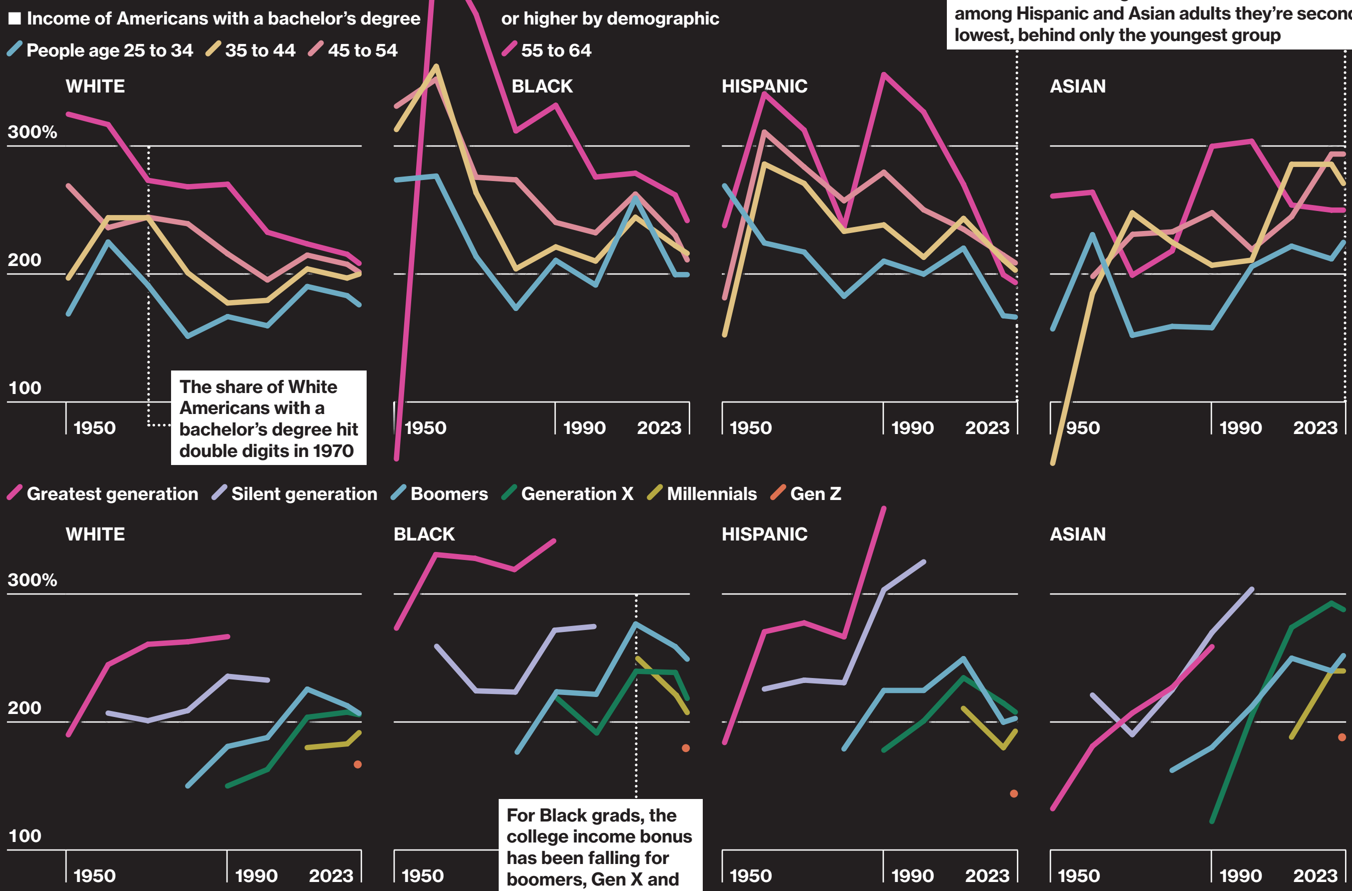
More people are going, but they're getting less out of it



In 2023, 25- to 34-year-olds with a bachelor's degree earned 200%—or twice—as much as people without one

College still provides an edge for all groups

■ Income of Americans with a bachelor's degree or higher by demographic



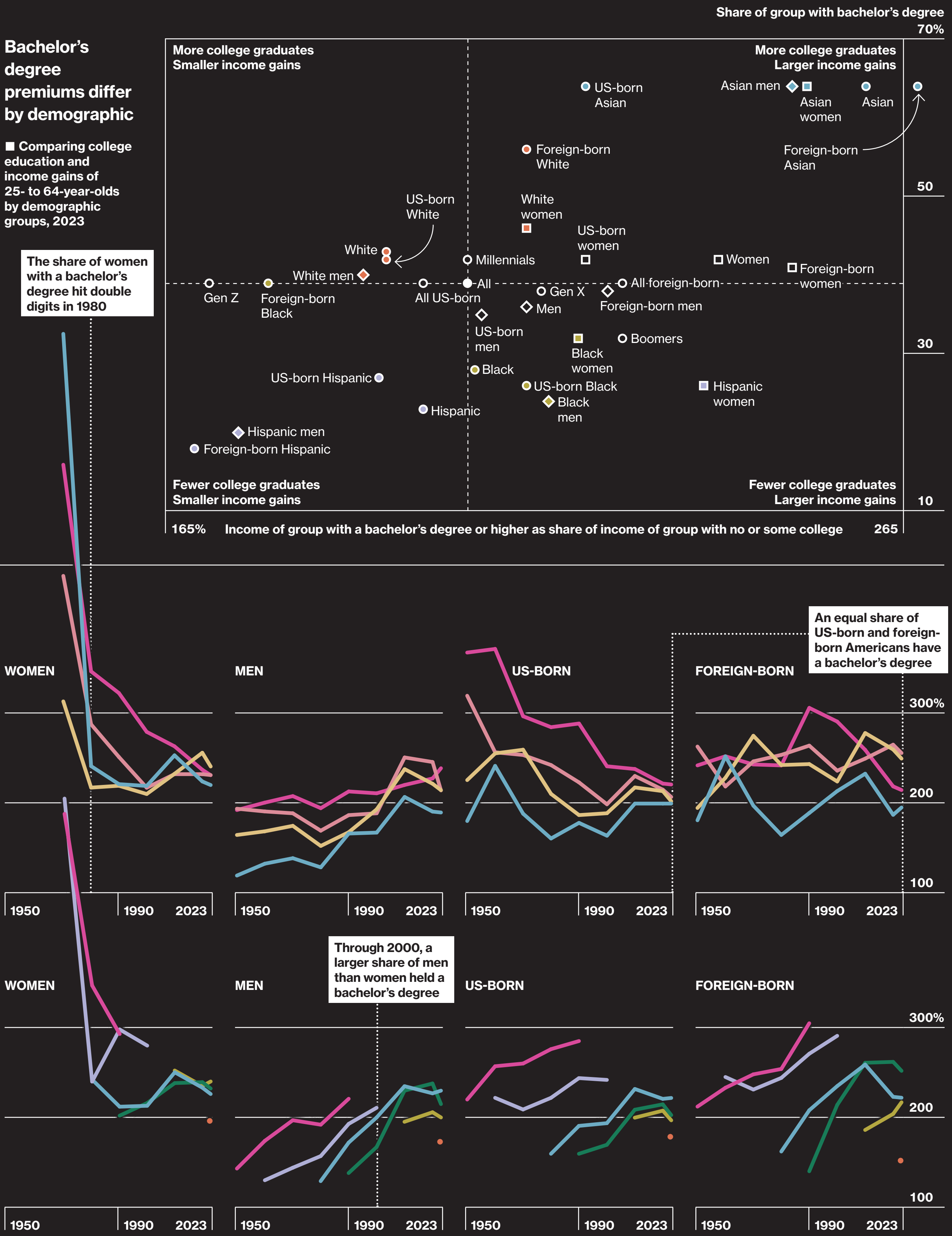
While 55- to 64-year-olds get the greatest income boost among White and Black Americans, among Hispanic and Asian adults they're second-lowest, behind only the youngest group

The share of White Americans with a bachelor's degree hit double digits in 1970

For Black grads, the college income bonus has been falling for boomers, Gen X and millennials since 2010

Bachelor's degree premiums differ by demographic

■ Comparing college education and income gains of 25- to 64-year-olds by demographic groups, 2023



The share of women with a bachelor's degree hit double digits in 1980

An equal share of US-born and foreign-born Americans have a bachelor's degree

Through 2000, a larger share of men than women held a bachelor's degree

■ DATA: US CENSUS AND AMERICAN COMMUNITY SURVEY, COMPILED BY IPUMS USA. NOTE: SHARE OF POPULATION WITH A BACHELOR'S DEGREE OR HIGHER ONLY INCLUDES POPULATION FOR WHICH AN EDUCATIONAL ATTAINMENT LEVEL WAS AVAILABLE; FOR DATA 1950-90, PEOPLE WITH FOUR OR MORE YEARS OF COLLEGE COMPLETED ARE COUNTED AS HAVING A BACHELOR'S DEGREE; GENERATIONS ARE DEFINED BY THE FOLLOWING BIRTH YEARS: GREATEST 1901-27, SILENT 1928-45, BOOMERS 1946-64, X 1965-80, MILLENNIALS 1981-96, Z 1996-2004; WHITE, BLACK AND ASIAN DATA DOES NOT INCLUDE HISPANIC MEMBERS OF THOSE GROUPS

WANT TO GO TO COLLEGE? PAY THE COLLEGE BOARD

The $2 billion nonprofit that runs—and shapes—higher education admissions

By Megan Greenwell

Illustrations by Ben Denzer

IF YOU'RE A HIGH SCHOOL STUDENT planning to apply to a top-ranked college or university, there are some things you'll need. Make sure to take the PSAT ($18) as early as possible in your junior year–or, ideally, as a sophomore, which will give you more time to study for the real thing. Take the SAT at least twice ($68 each) to maximize your score. Most important, you'll want to take as many Advanced Placement courses as you can possibly fit into your schedule to show admissions officers that you're challenging yourself, then take the end-of-year tests ($99 each, or $147 for AP Seminar or AP Research) to prove you're already excelling at the college level. Signing up for eight or 10 AP tests over four years isn't uncommon for students applying to top-tier universities, and you'll need to stand out in an age of plummeting acceptance rates. If you need money for college, many schools will ask you to submit the CSS Profile ($25 for the first college-specific application, $16 for each subsequent one).

Can't afford all those tests? Not to worry! Fee waivers are available for all of them, often funded by your state, town or school district, requiring more than $100 million in public funds each year. Your high school needs you to sit for the tests, too: It must report to the federal government how many students take accelerated coursework, and it can unlock additional funds if the numbers are high enough. Your school's spot in the *U.S. News & World Report* rankings also depends on how many students take AP courses and pass the exams. Finally, a number of states now require the SAT for graduation, and several public university systems are required to accept high AP scores for college credit. Thirty-five percent of all high school students take at least one AP test, and the share rises every year. You don't want to be left behind.

And there's one organization collecting all those checks–the College Board, which is, perhaps surprisingly, not a governmental body but a nonprofit worth more than $2 billion.

The College Board writes the curriculum for 40 AP courses, administers and grades the exams, oversees the PSAT and SAT, and offers a variety of free and paid resources to help prepare for the courses and tests. Many students will wind up paying the company north of $1,000 over the course of their high school career. "If the same people can create the content and create the tests, that's a really great business model where you've got the whole public secondary education system wrapped up in one little company," says Jon Boeckenstedt, the vice provost of enrollment management at Oregon State University and a prominent critic of the College Board.

Housing so many parts of the high school experience under one roof has made the New York-based organization immensely wealthy, with more than $1 billion in annual revenue–on which it pays no taxes as a 501(c)(3) nonprofit. But mere money isn't the biggest source of the College Board's might. Twelve decades after its creation, it's now the closest thing the fragmented American educational system has to a central governing body, with a huge amount of authority over what students are expected to know when they get to college. Higher education is arguably the most important driver of social mobility, as well as the most powerful force in selecting which members of the next generation will set the political and cultural agenda. By controlling who gets in and what they know when they get there, the College Board has become the chief gatekeeper of academic success in America.

Executives at the organization have now set their sights on conquering the market for career and technical education as thoroughly as they have that for college prep. They have big plans for new Advanced Placement courses, new government partnerships, new types of learning and–naturally–new artificial intelligence tools. Chief Executive Officer David Coleman says his goal above all is to reach many, many more students, expanding his core customer base from the top-performing third of high schoolers to what he calls the "vast, airy middle."

THE ORGANIZATION WAS FOUNDED IN 1899 as the College Entrance Examination Board by a coalition of elite universities and private high schools seeking to standardize a college-prep curriculum. Mastering advanced English required knowledge of *The Merchant of Venice*, *The Rime of the Ancient Mariner* and *Ivanhoe*; intermediate skills in German and French were expected. Higher education was a privilege reserved for a tiny sliver of upper-crust White men, and the board's priorities reflected that.

As matriculation numbers grew, the College Board's size and ambitions expanded. The SAT was created in the mid-1920s to replace IQ tests as the primary way of determining who belonged in college–and, according to its founder, Carl Brigham, to prove the superiority of "the Nordic race group" while keeping Black students out. By the beginning of the 1950s, a group of educators and philanthropists were discussing how prep schools and universities could better complement one another's work, avoiding overlaps in curriculum and allowing students to more efficiently finish their education.

The result was the Advanced Placement program, which was designed to give exceptionally talented students a jump start in college by allowing them to earn credits while still in high school. As detailed in literary historian and high school English teacher Annie Abrams' 2023 book *Shortchanged: How Advanced Placement Cheats Students*, the founders' true goal was to spread their deep love for the liberal arts. "The aim of the experiment is not to accelerate the bright, not to coach or to tutor the bright students, to jump through higher hoops, but is to provide a kind of teaching which shall, by its depth as well as its breadth, truly challenge the kind and the character of the student," one of the program's designers wrote in a 1957 journal article introducing the curriculum.

Harvard University became the first to grant credit for these advanced classes, lending credibility to the effort and paving the way for the program to expand quickly. Then the 1988 film *Stand and Deliver*–a fictionalized version of the true story of a calculus teacher whose low-income Latino students all passed

■ PREVIOUS SPREAD: DESK SOURCE PHOTOGRAPH BY GETTY IMAGES. THIS SPREAD: MAILBOX SOURCE PHOTOGRAPH BY KAYA LEGRAND

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the AP exam—drove a massive amount of interest in the program at schools across the country. Still, into the 21st century, AP remained a relatively niche business, and the College Board was only a moderately successful nonprofit with a couple of hundred million dollars in revenue. A man named Gaston Caperton changed that.

The former governor of West Virginia, Caperton was hired as CEO in 1999 and set out to dramatically expand the College Board's business. Unlike the SAT, which is a single test, AP could expand in any number of directions, adding more subjects and recruiting more test-takers. Thanks to Caperton's political experience and network, the organization won state and federal government contracts to fund teacher training, as well as subsidies on exam fees for low-income students. It was also able to persuade a number of states to require their public university systems to accept AP test scores for college credit. In the first seven years of Caperton's 12-year tenure, he doubled the College Board's revenue, to $485 million, and staff size, to 1,100—in large part thanks to a huge increase in the number of students taking AP exams, which reached 1.2 million by 2006.

Caperton retired in 2011 and was replaced by Coleman, a Rhodes scholar and former McKinsey & Co. consultant who'd helped develop the Common Core, an attempt to standardize K-12 educational benchmarks in math and language arts across every state. Over the past 14 years, Coleman has carried on Caperton's legacy of aggressive growth, increasing the College Board's revenue by more than 30% and crossing the billion-dollar mark for the first time in 2022. More than 2,000 people now work for the College Board, with the biggest group in the AP program, which in 2023 brought in more than half of revenue. (Coleman's salary has grown dramatically as well, from $690,000 in his first full year to more than $2 million in 2023.) More than 80% of American high schools now offer five or more AP courses.

The College Board's CEO disputes the premise that his organization is uniquely influential. An exuberant, fast-talking 55-year-old native New Yorker in a Polo sweater, clear-framed glasses and a few days' worth of stubble, Coleman prefers to think of his work as serving, rather than directing, educational priorities. "People call us powerful, but we're not really," he says. "We have to fit into state requirements, we have to listen to faculty and business."

Coleman is an idealist at heart, with a clear passion for educating students and for engaging with criticism of how the College Board operates. He knows that people knock AP for prioritizing memorization and formulaic writing over deep intellectual engagement and that they're skeptical of the organization's dominance. He wants many aspects of AP classes to be different, too, as well as to enroll lots more students. The point, he says, isn't to make more money but to solve what he sees as a crisis in American education that's left students disengaged and disaffected. Even before the pandemic, Coleman says, far too many students of all ability levels were dropping out of school, cutting class or simply gritting their way through it—not developing a true love for learning like the founders of AP envisioned. The $1 billion in annual revenue is simply the tool that will allow him to tackle the problem.

IN COLEMAN'S MIND, FIXING THE HIGH school experience involves two fundamental shifts in the College Board's mission. Currently, college credit for AP courses is awarded solely on the basis ▶

◀ of passing the end-of-year exam, not on a student's grade in the class itself. AP teachers have always been required to hew closely to the standardized curriculum created by a committee of college professors and high school teachers chosen by the College Board. Without one consistent metric that applies to everyone, AP's leaders have long argued, there's no way to ensure that classes at thousands of high schools across the US all meet the criteria for college credit.

But that approach has long rankled teachers, who resent "teaching to the test" rather than pursuing more holistic teaching modes. Many schools are now embracing "project-based learning," a trendy concept among progressive educators looking to empower students to pursue their own academic interests and to tackle real-world problems. Eight elite private schools in the Washington area announced in 2018 that they would drop AP in favor of "a curriculum oriented toward collaborative, experiential and interdisciplinary learning." (The US Department of Justice found that the schools "likely" violated antitrust law by coordinating their decision, though it declined to enforce any penalties.) This is fine for brand-name schools such as Georgetown Day and Sidwell Friends, which don't need the imprimatur AP provides—but run-of-the-mill public schools don't have the luxury of opting out.

Coleman, surprisingly, now agrees. "For too many kids, Advanced Placement is the advanced serving of what they didn't like in the first place, to be harsh," he says. A 2021 study funded by the George Lucas Educational Foundation found that project-based learning resulted in more students passing the AP tests in US government and environmental science. Black, Latino and low-income students, whose AP (and SAT) scores have always lagged behind those of their White, Asian and wealthier peers, made noticeable improvements in the study. Inspired by that outcome, Coleman wants to redesign many AP curricula to focus more on independent research and hands-on experimentation. Most will still lead to a test at the end, but others could culminate in a final project instead.

Many College Board critics support the concept of bringing more exploration to the classroom experience, but they would much prefer the specifics be left up to educators rather than a billion-dollar organization. "One aspect of project-based learning is investing authority in the individual teacher to know things, and you explicitly do not need a middleman to do that," says *Shortchanged* author Abrams. "Could you do it better without the College Board? Almost certainly. Why is a centralized, opaque body necessary to accomplish any of the things that the College Board ever says that it wants to do?"

The other change Coleman envisions for the next chapter of the College Board is even more elemental: a move away from the single-minded focus on college, the organization's raison d'être for 125 years. He announced in 2024 that the Advanced Placement program will build out a roster of courses geared toward career and technical education (CTE) in an effort to reach students planning to enter the workforce or pursue a trade certification after high school. Eventually, Coleman hopes, passing a set of AP exams related to a given CTE subject will result in a student earning a professional credential by the time they graduate or allow them to skip some required classes in trade school.

Several hundred high schools are currently participating in pilot AP courses in cybersecurity and cyber networking, ▶

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◀ which are scheduled to become part of the core College Board course offerings in the fall of 2026. An AP course in business principles and personal finance—its curriculum designed by company executives in addition to college professors, with an emphasis on project-based learning—will also make its debut next year.

Initially, the College Board envisioned its CTE offerings as a separate track from AP. Trevor Packer, longtime head of the program, says he wanted to make it clear that these "Career Kickstart" classes weren't only for college-bound students. Talking to teachers and superintendents changed his mind. "It is sending a message that this type of programming is not good enough for AP," he remembers them telling him. "Using the AP name will allow us to heal this divide between who goes to CTE and who goes to college." In addition to introducing CTE-specific courses, the College Board has begun suggesting "clusters" of AP courses as pathways to different trades. A guide on the organization's website advises that students who want to work in construction take AP physics and statistics and consider adding courses in art history, micro- and macroeconomics, human geography and eight other subjects.

The move toward CTE classes is well timed: Colleges saw a 15% drop in enrollment from 2010 to 2021, according to the National Center for Education Statistics. Viewed one way, the College Board is simply responding to the needs of a growing group of students who've often been underserved by the traditional high school experience. Read more cynically, Coleman and Packer see a looming threat to their biggest revenue stream that they need to address before their board of directors grows concerned. "If they just stick to academic tests, they're going to be left in the dust," says Harry Feder, the executive director of FairTest, an advocacy group. "It's the classic monopolist behavior: They're in the schools already, so now we can give you AP Plumbing in addition to AP US History."

Given the chance to respond to the less-generous interpretation of his motives, Coleman grows visibly excited. If he was only in it for the money, he says, he could just keep increasing the number of students taking legacy AP classes. Instead, he's doing something "super hard" because he believes so strongly in the importance of setting all students up for success. "Would you rather a generation of young people who want to be technicians or plumbers have to work for someone else because they do not have those skills?" he asks. "Am I onto something trivial, or am I onto something profound and real?"

Asked whether every high school student should be taking at least one Advanced Placement class in an academic or a CTE subject, Packer initially demurs, saying he wouldn't want to call his program the only way to have a fulfilling high school experience. But, he adds, AP does have advantages no other program does: scale, infrastructure, an established brand name and contractual relationships with universities and states. The model has "elevated teaching and learning," he says. Students gunning for a paid apprenticeship instead of Yale deserve to benefit, too.

Few would argue that the average high school does an outstanding job of preparing students for the workforce. But if the College Board is successful in expanding participation from one-third of high schoolers to the majority of them, the result will be a private entity controlling an even bigger swath of what students learn in public schools. "Many people's perception seems to be that it's an official agency of some sort, something set up by members of Congress to measure educational standards, but it's just a company," Oregon State's Boeckenstedt says. "I'm really worried about the unfettered faith people put into the plans and projects that the College Board has."

The College Board's funding, in fact, is much less directly tied to performance than is the funding of the schools that use its products. Almost 4 in 10 students in the class of 2024 who took at least one AP exam didn't achieve a passing grade of 3, 4 or 5, making them ineligible for college credit. More than 45% of those who took the most popular exam, AP English Language & Composition, didn't pass. While the College Board no longer publishes test results broken down by race, Packer and Coleman acknowledge that Black and Latino students don't score as well as their White and Asian counterparts, and 60% of tests taken by low-income students result in a score of 1 or 2. Unless CTE exam pass rates dramatically outpace those of liberal arts subjects, the credential the College Board says is so valuable will remain out of the reach of a huge percentage of students.

Even Advanced Placement champions are concerned about the disparity in exam scores. There is a persistent "excellence gap," write education analysts Chester Finn and Andrew Scanlan in their 2019 history of AP, *Learning in the Fast Lane*. "This poses a real challenge for policy makers."

Coleman and Packer have a plan for that, too. Much of it revolves around AI: Tools for students will "deepen their abilities to write, research, analyze and so on," Packer says, while digital teaching assistants provided by the College Board will handle the "drudgery of endless reading and grading of students' problems" and free up teachers' time to "deliver meaningful feedback" and coach students in the areas where they struggle most. That worries educators like Abrams, whose experience teaching in a New York City public school has shown her that students perform best when their teachers have autonomy. "Are we giving these students maximal opportunities to take themselves seriously, to learn, to grow, to explore and to love learning? No, we're not," she says.

Without the College Board's relentless focus on growth, hundreds of thousands of students would be unable to afford more challenging courses. The organization's budget buys the ability to provide free tests and try new initiatives, while its market share means most schools and districts have little choice but to follow its lead. But it's also true that the ever-growing AP regimen allows decision-makers to sidestep the thornier questions in favor of ones that feel a bit simpler to answer. There's a clarity in asking students to just take a test and then tallying up the results, $99 at a time. Ⓑ

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THE BIG CHOICE

In 2007 most Americans didn't realize the country was barreling toward the Great Recession, and optimistic families enjoying rising stock prices and a stable job market kept growing. A record 4.3 million births were recorded in the US that year, the largest baby boom in history. Now, 18 years later, that final cohort of infants conceived before the crash is about to graduate from high school. Those kids are facing the biggest decision of their young lives: where to go to college. The application process and school itself for these rising freshmen will look a lot different than it did for their parents' generation—prices are up, demographic data is forbidden in admissions considerations, and the future of federal funding is fraught. But one thing is the same: These incoming students are full of enthusiasm, humor and promise, befitting America's future.

Introducing the class of 2029

By Anne Riley Moffat

EARL MELEBECK

Willis, Texas

Melebeck, 17, is active, social and unfailingly polite. The multi-sport athlete—track and football, plus two years of basketball—is so diplomatic, he won't even take sides in the Drake-Kendrick Lamar feud. "I feel like too many people hate on Drake," he says, ultimately declining to throw his support behind either musician. "I'm in the middle." The senior also appreciates high fashion (Balenciaga is a personal favorite), goes to church and works 30 hours a week at a car wash. Saving for anything specific? "No, ma'am. I just like to have money in my back pocket."

Melebeck knew he wanted a midsize college—"not too big, but not an itty-bitty school, either"—ideally a plane ride away. Several contacted him about opportunities to play football, but, he says, "I just wanted to be a regular student." The defensive back and occasional receiver had an undefeated senior season with the Willis High School Wildkats that came to an end at the regional semifinals. He looked at several in-state schools, including **Sam Houston State University**, a public research institution an hour north of Houston, and **Huston-Tillotson University**, a private historically Black school in Austin. Ultimately, the desire for distance won out. He'll enroll at **Alabama A&M University** in Huntsville, where he plans to study business or finance. "It was the perfect location. It wasn't too far, too close, and it's an HBCU," he says. "My dad went to an HBCU, so I feel I get a lot of value from that."

■ PHOTOGRAPHS FOR BLOOMBERG BUSINESSWEEK BY ARTURO OLMOS (MELEBECK), CAYCEE CLIFFORD (CORTEZ RAMOS), JARED SOARES (DUNN)

NAYELI CORTEZ RAMOS

Oakland, California

"My name's Nayeli. I'm an older sister," says Cortez Ramos, 18. It's not surprising that talk of family is the first thing out of her mouth: Her mother and little sister—along with her mom's 11 local siblings—are everything to her. How's her 10-year-old sister doing with the idea of her going away to school? "She's devastated," Cortez Ramos says. "She literally texts me all the time: 'Please don't leave, please stay, don't go.' My mom's like, 'You better call me every night, or else I'm taking you back with me.'" Besides school, Cortez Ramos, who's considering studying sociology, fills her time working 20 hours a week as a social impact intern, riding her bike, ice skating and blasting Bad Bunny.

She originally didn't limit herself geographically, focusing instead on finding the best small to midsize school with a diverse campus. She thinks she might have liked **Macalester College** in St. Paul, Minnesota, or **Washington University** in St. Louis, but she quickly realized she didn't want to go so far away. Working with QuestBridge, a nonprofit that connects high-achieving, low-income students with top schools, Cortez Ramos ranked her choices, putting in-state campuses such as **Stanford University**, **Claremont McKenna College** and **Pomona College** near the top of her list. She and Pomona matched via the binding process, so she'll be getting a full scholarship to attend the small liberal arts school located 35 miles from Los Angeles—and 400 miles from her mom and sister. "I look forward to being surrounded by a new environment, meeting new people," Cortez Ramos says. "But definitely keeping in touch with them is very important to me."

JJ DUNN

Alexandria, Virginia

A theater kid who says they're "probably the biggest English nerd in my school," Dunn, 18, is reading four books at once, "two for class, two for fun." (Tom Stoppard's absurdist tragicomedy *Rosencrantz and Guildenstern Are Dead* lands in the "fun" pile.) They dream of one day writing their own books or perhaps teaching literature at the kind of diverse public school they attend now. Identifying as nonbinary, Dunn says feeling safe on campus was a nonnegotiable criterion for the college search.

Their first visit was to **Dickinson College** in Carlisle, Pennsylvania, in part because their grandmother had gone there. Dunn didn't see a lot of student diversity on the campus tour, but they felt safe and liked the emphasis on study abroad. They also considered **Brandeis University**, in the Boston suburbs, which makes it easy to double or even triple major, meaning they wouldn't have had to choose between English and creative writing. They ultimately went with **Bryn Mawr College**, a small liberal arts school half an hour by car outside Philadelphia. One of the historic women's colleges known as the Seven Sisters, Bryn Mawr welcomes multiple gender identities, and Dunn says everyone was waving at one another between classes. "I was there on a rainyish day, overcast, right before spring break, and everyone I saw on campus was super happy to be there."

WILL HOLADAY

📍 **Pikesville, Maryland**

Holaday, 18, is juggling rehearsals for back-to-back musicals this spring. At school he's playing high school heartthrob Aaron Samuels in *Mean Girls* and…high school heartthrob Troy Bolton in his youth group's staging of *High School Musical*. "They're kind of the same role," he concedes. Last year, playing snowman Olaf in *Frozen JR.* was more his style. "I love being the comedic relief and just being able to be super extra for no reason," says Holaday, who also tours with the Maryland State Boychoir and mans third base for his varsity baseball team (when he's not injured).

He wants a college that will let him explore musical theater and play intramural baseball and Frisbee, though his ultimate career goal is to be an electrical engineer focusing on renewables. "I've always been interested in alternative energy, ever since I was a kid," he says. "I had this one idea where I would put solar paint on a car, and then the sun would hit the car, and it would charge it just from the paint." He looked at **Towson University**, about 15 minutes from his home, and liked its dual-degree engineering program. He also considered **Loyola University Maryland**, especially because of the generous scholarship it offered, and his state system's flagship campus, **University of Maryland, College Park**. But the best fit was **Rochester Institute of Technology** in upstate New York, which offers a renewable energy track as well as an accelerated combined bachelor's-master's program. "Two degrees in five years, it gets a huge discount," he says. "It ended up being a one-stop shop." The downside? RIT is farther away from his girlfriend, three siblings and four cats than he'd have liked. "I still don't want to go that far, but it's the best place for me."

ARUNIMA CHAUDHARY

📍 **Chicago**

When Chaudhary, 18, became editor of her student paper, no one was reading it. So she oversaw an ambitious revamp: better interviews, a new layout, satire columns. Now her classmates pick it up. "Maybe they're just reading the funny column, but at least they're reading one thing, and then maybe they'll turn the page and want to read something more," she says. Chaudhary, who also competes in mock trial and academic decathlon, is drawn to classes that focus on knowledge for its own sake, not career prep. "Even learning the rules of evidence I think is really fun," she says. "I can be passionate about anything."

Her family long assumed she'd attend the **University of Chicago**, with its main quad just five blocks from home. She loved its emphasis on broader learning, but she knew she'd end up living with her parents. Meanwhile, she couldn't shake the memory of a pitch-perfect history textbook she'd read freshman year: "It showed the logic of every bit of history, the way the events fall like a domino." It had been written by a **Columbia University** professor. In her junior year, the New York City Ivy became the epicenter of student protests over the latest Israel-Hamas war, giving her a unique chance to observe its student journalists in action. "The way that they were able to capture the nuances of the emotion and yet still have good, hard reporting–that balance was very beautiful that they were able to strike," she says. She applied to Columbia early decision and got in.

■ PHOTOGRAPHS FOR BLOOMBERG BUSINESSWEEK BY JARED SOARES (HOLADAY), JACLYN RIVAS (CHAUDHARY), AXEL DUPEUX (HOPF)
■ DATA: US DEPARTMENT OF EDUCATION NATIONAL CENTER FOR EDUCATION STATISTICS. ACADEMIC YEARS ARE SHOWN BY END DATE

ABBY HOPF

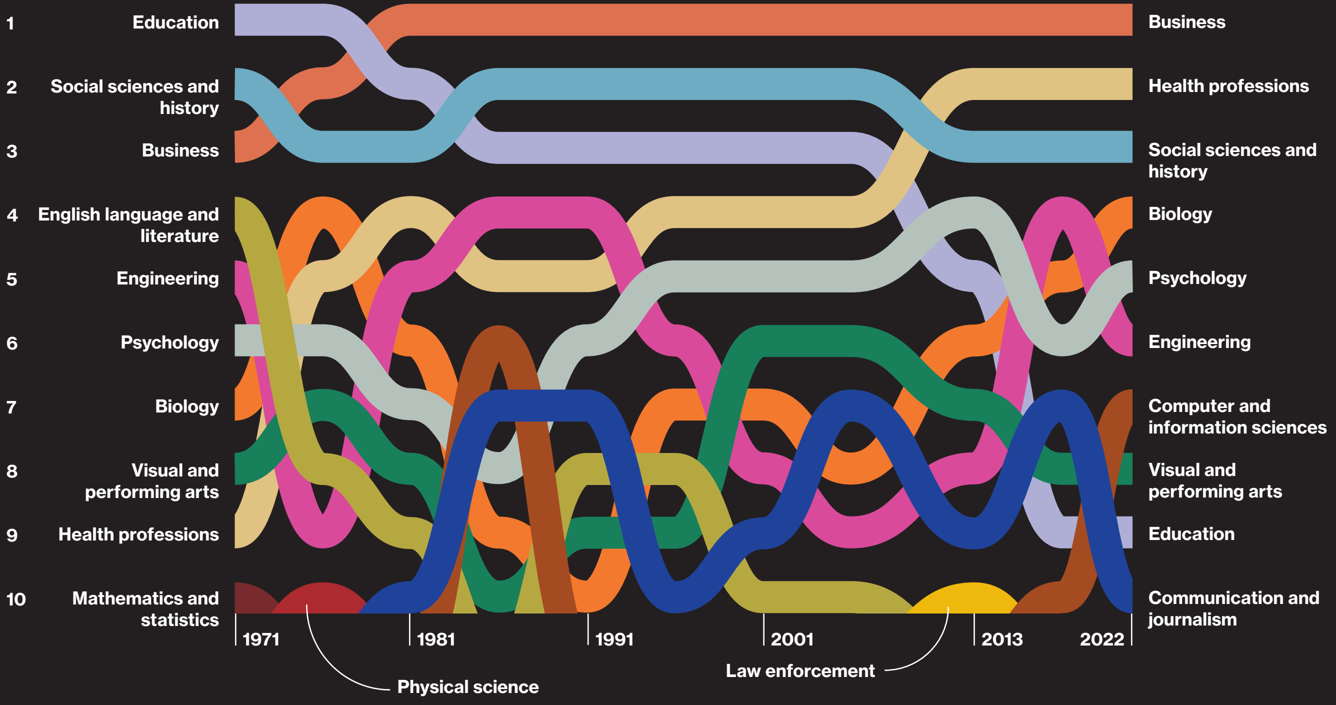
Saugerties, New York

Hopf is captain of the volleyball and flag football teams and works part time at a local pizza joint, but her current passion is digital advertising. A member of her high school's business club, the senior from the Hudson Valley plans to major in business administration, work in New York City and eventually start her own marketing firm. "I want to be an independent businesswoman and inspire younger generations," the 17-year-old says. She's close to her parents and her two older half brothers, who–despite being in their 30s–continue to tease her about being the favorite child. "I'm the baby," she laughs, shrugging. "I love it."

Chatting with Hopf is easy, but her college search was anything but. "I was absolutely lost," she says. In her sophomore year, she planned on applying to "Southern, big, sorority" schools, such as the **University of Georgia** or **Florida State University**, with a goal of becoming a nurse. But she discovered the business electives at her high school and pivoted. She then considered a two-year community college but decided to pursue a four-year degree instead, focusing on affordable in-state programs with specific business tracks. She looked at **SUNY Oswego** on Lake Ontario, but she says the campus was "gloomy" and the distance was a hike. At the end of the day, Hopf fell in love with **SUNY Oneonta**, roughly a two-hour drive from home. The campus is compact, the people are outgoing, and she likes the business offerings. It doesn't hurt that her best friend is also going there–but they've decided not to room together. "We both wanted to branch out and meet new people" rather than risk "ripping each other's heads off," she says. "I think it's the mature thing to do."

WHAT WE STUDY

Most popular majors among undergraduates who received degrees



COMMUNITY COLLEGE COMEB

COMMUNITY COLLEGES WERE CONCEIVED AS A gateway to the American dream for poor and working-class students, furnishing the general education courses that make up the first two years of a liberal arts curriculum at a much lower cost than four-year universities. With an associate degree in hand, graduates can—in theory—transfer to a university and take the advanced courses that earn a bachelor's degree. That remains the ambition of most community college students. And they're going to need that bachelor's: Georgetown University's Center on Education & the Workforce estimates that by 2031 many more US jobs will demand one, while the share of roles requiring an associate degree will grow only slightly.

And yet, fewer than half of students who enroll in community college earn any credential at all within six years, according to the research arm of the National Student Clearinghouse, which tracks students for colleges and universities. In recent years, no more than a third of first-time students transferred to a four-year program, and fewer than half of those have finished. That's one reason why the number of community college students has plummeted 17% since 2010, when enrollment peaked.

Defying this national trend is the Alamo Colleges District in San Antonio, which has been reimagining much of how community college works. In 2014, as the student population at the district's five schools bottomed out, it began implementing a package

Clockwise from left: The opening of a new welcome center at the Alamo Colleges Access Building; an enrollment coach advising a nursing student; a campus resource center stocking food and other essentials

SAN ANTON
COLLE
#1 in th
CAT TECH

An ambitious project is underway in Texas
By Robb Mandelbaum
Photographs by Kaylee Greenlee

BACK

of reforms known as guided pathways, which help students find the best route to a bachelor's degree or a good job in their field of interest and then keep to it.

The truth underpinning guided pathways is that most community college students don't have the money or the time to indulge their curiosities the way wealthier university students might. More than half of all community college students receive financial aid, and about half work full time. Roughly a third are the first generation in their family to go to college, and 1 in 8 is a single parent. Many support their own parents. They rise and fall with the tides of life's vicissitudes and routinely get knocked off course by an illness or the loss of a job.

The Alamo district began by overhauling its system for dispensing academic ▶

◀ advice, which, like at most schools, depended on the student to initiate the conversation. Going forward, Alamo students would meet regularly with an adviser—today, they talk to an “enrollment coach” before they even register. Next, the district reorganized its majors and other academic programs into six institutes broadly aligned with San Antonio’s job market. Beginning in 2016, students could browse programs by industry or field of interest, job category or even specific positions and see the required courses mapped out semester by semester. Most programs offer “stackable” credits as a student progresses, starting with a basic certificate and typically leading to an associate degree. Before enrolling, students choose an institute, where they attend orientation and meet their adviser.

At the same time, the district began tackling a perennial problem that bedevils community college students everywhere—the refusal of four-year institutions to grant credit toward a major for courses that ostensibly don’t meet the university’s requirements. Students transferring to the University of Texas at San Antonio, the most popular destination from the Alamo district, typically spent three years on what should have been two years’ worth of courses. But with over 50,000 students, Alamo had the sway to

A corequisite algebra class for nursing and education students at Northwest Vista College in San Antonio (above); Alamo Chancellor Mike Flores

make a deal with many leading universities in central Texas and beyond. Since 2016 the district has published "transfer advising guides" detailing the Alamo courses that satisfy bachelor's requirements for more than 3,000 specific majors at 20 universities.

The district has also rethought how it teaches, especially math and English. Traditionally, students behind in those subjects—about 60% of an incoming class, according to Davis Jenkins, a Columbia University researcher who developed guided pathways—would have to take remedial classes before college-level courses, but most drop out first, Jenkins says. At the Alamo schools, and at a growing number of community colleges around the country, developmental math and English instruction is embedded into the entry-level college courses as "corequisites." These classes cover the same material as regular college courses, but at a slower pace. Alamo schools were also at the forefront of an effort to tailor math course requirements to the degree and the job it may ultimately lead to. Health profession students study statistics, and liberal arts students learn "contemporary math," leaving "Sputnik-era math," as Jenkins calls traditional college algebra, to science, technology, engineering and math fields. At Alamo, the change preceded a sharp rise in the share of remedial math students who passed a college-level math class within two years, according to data published by the Texas government.

Overhauling the system is difficult work that requires patience, money and steady leadership, which can be in short supply at community colleges. Of the more than 400 schools that participated in extensive guided pathways training, only 50 to 60 schools have come close to implementing the broad range of changes across their institutions, according to Jenkins. Perhaps another 150 continue to work at it.

It's too soon to judge guided pathways' effectiveness, particularly with the interruption caused by Covid-19. The early results, though, are encouraging. Alamo's graduation rates for students starting full time caught up, and then overtook, the state average (which also increased). And guided pathways' implementation at Alamo has coincided with dramatic increases in graduation rates from some groups, including veterans. Crucially, the district has nearly closed the gap separating Black students from Whites and Hispanics. By contrast, says Jenkins, "at the national level, the race gap has not budged." Nor has it narrowed in Texas overall.

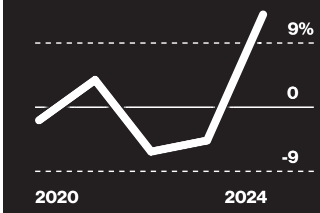
Buoyed in part by a new program that offers free tuition to all high school graduates in San Antonio's Bexar County, Alamo enrolled 62,000 students last fall, surpassing for the first time its 2010 enrollment and bucking the national trend. Black enrollment, which has fallen by a third everywhere else, grew 12% by the fall of 2023.

But graduation rates remain frustratingly low, especially for students who attend part time. There's been no increase so far in the number of students transferring for a bachelor's, though those who do transfer are earning their degrees faster. "We don't compete with other universities," Alamo Chancellor Mike Flores says. "We compete with poverty." Ⓑ

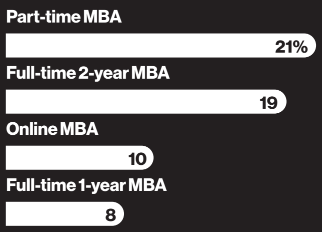
THE STATE OF B-SCHOOLS

Turning point or just a blip? After years of decline, applications to the country's two-year MBA programs rebounded last year, up 19%, according to a survey by the Graduate Management Admission Council. Below is a snapshot of trends. While B-schools aren't as existentially threatened as four-year colleges, change is afoot. —*Robb Mandelbaum*

Global year-over-year change in MBA applications



Change in applications to US MBA programs, 2023 to 2024



How Top US Schools Are Faring

Change from 2023 to 2024

		Applications	International students*	Under-represented minorities*
1	Stanford	18%	3	-4
2	Chicago (Booth)	22	-7	1
3	Northwestern (Kellogg)	N/A	1	-6
4	Dartmouth (Tuck)	36	-3	2
5	Virginia (Darden)	17	-10	4
6	Harvard	21	-3	-1
7	Pennsylvania (Wharton)	18	-2	-2
8	Michigan (Ross)	36	1	8
9	Carnegie Mellon (Tepper)	6	-14	3
10	MIT (Sloan)	15	0	-6
11	Cornell (Johnson)	N/A	-7	N/A
12	Duke (Fuqua)	16	-6	8
13	Yale	22	-7	1
14	UC at Berkeley (Haas)	5	-9	8
15	NYU (Stern)	48	-7	5
16	Georgia Tech (Scheller)	5	-13	-2
17	Columbia	27	-1	-1
18	UCLA (Anderson)	41	-4	1
19	Texas at Austin (McCombs)	3	3	-1
20	Vanderbilt (Owen)	8	4	-10

Check out *Businessweek*'s annual rankings of the best business schools at bloomberg.com/business-schools

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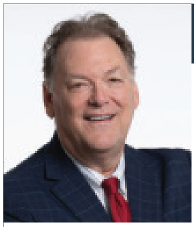

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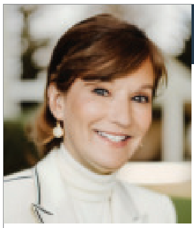

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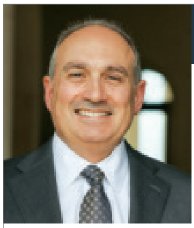

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were considered for the award; 249 (7% of candidates) were named 2024 Five Star Wealth Managers. This award was issued on 07/01/2024 by Five Star Professional (FSP) for
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Fee paid for use of marketing materials. Self-completed questionnaire was used for rating. This rating is not related to the quality of the investment advice and based solely on the
issued on 10/01/2024 by Five Star Professional (FSP) for the time period 01/09/2024 through 08/09/2024. Fee paid for use of marketing materials. Self-completed questionnaire
for the award; 400 (6% of candidates) were named 2024 Five Star Wealth Managers. This award was issued on 09/01/2024 by Five Star Professional (FSP) for the time period
advice and based solely on the disclosed criteria. 1,596 Cincinnati-area wealth managers were considered for the award; 200 (13% of candidates) were named 2024 Five Star

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manager has not; A. Been subject to a regulatory action that resulted in a license being suspended or revoked, or payment of a fine; B. Had more than a total of three settled or pending complaints filed against them and/or a total of five settled,
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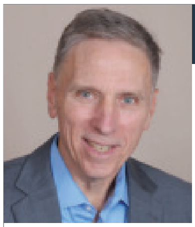

Keith Nyborg

Partner

Keith, a partner at INVESCO, LLC, has helped clients make sound financial decisions since 1990. We teach investors how to simplify and clearly understand what they are investing in. INVESCO, LLC is a fiduciary acting in our clients' best interests. We offer portfolio management, financing planning, retirement planning and tax preparation/planning services.

INVESCO, LLC

1295 Rand Road • Des Plaines, IL 60016
Phone: 847-824-4078
keith@invescollc.com
www.invescollc.com

Jonathan A. Zulauf

Registered Principal

With over 27 years of experience in the financial services industry, Jonathan Zulauf has dedicated his career to helping individuals, families and businesses achieve their financial goals. Known for his personalized approach, Jonathan specializes in wealth management, retirement planning and investment strategies tailored to the unique needs of his clients.

LPL Financial

333 W Pierce Road, Suite 405 • Itasca, IL 60143
Phone: 630-452-6945
jonathan.zulauf@lpl.com • www.lpl.com

Securities and advisory services are offered through LPL Financial (LPL), a registered investment advisor and broker-dealer (member FINRA/SIPC).

Ronald J. Gulaskey

Certified Financial Fiduciary®, CEO

RETIRE RIGHT
WEALTH MANAGEMENT

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Mason, OH 45040
Phone: 513-722-9222
rgulaskey@rrwmgroup.com
www.rrwmgroup.com

Ron has over 30 years of experience in investing and working with retirement income planning. He helps investors aim for lifetime income streams and protect assets from losses.

Retire Right Wealth Management is a State of Ohio registered investment adviser. This is not an offer or solicitation for the sale or purchase of any specific securities, investments, or investment strategies. Investments involve risk and, unless otherwise stated, are not guaranteed. Be sure to first consult with a qualified financial adviser and/or tax professional before implementing any investment strategy. Past performance is not indicative of future performance.

Sonya R. Saskin

CFP®, CFS®, AAMS®, CRPC®, President, Private Wealth Advisor

TouchPoint
WEALTH PARTNERS

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sonya@touchpointwealthpartners.com
www.touchpointwealthpartners.com

With 25-plus years of experience, I focus on working with clients that require more complex financial planning. I will work with you to understand your goals and review your current financial situation to create a financial plan that suits your specific needs.

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A WEALTH MANAGER

can help with retirement planning, legal planning, estate planning, banking services, philanthropic planning and risk management.

questionnaire was used for rating. This rating is not related to the quality of the investment advice and based solely on the disclosed criteria. 3,508 Atlanta-area wealth managers
the time period 10/10/2023 through 04/30/2024. Fee paid for use of marketing materials. Self-completed questionnaire was used for rating. This rating is not related to the quality
candidates) were named 2024 Five Star Wealth Managers. This award was issued on 02/01/2024 by Five Star Professional (FSP) for the time period 04/10/2023 through 10/31/2023.
disclosed criteria. 4,421 Boston-area wealth managers were considered for the award; 580 (13% of candidates) were named 2024 Five Star Wealth Managers. This award was
was used for rating. This rating is not related to the quality of the investment advice and based solely on the disclosed criteria. 6,273 Chicago-area wealth managers were considered
12/12/2023 through 07/09/2024. Fee paid for use of marketing materials. Self-completed questionnaire was used for rating. This rating is not related to the quality of the investment
Wealth Managers.

registered investment adviser representative; 2. Actively licensed as a RIA or as a principal of a registered investment adviser firm for a minimum of 5 years; 3. Favorable regulatory and complaint history review (As defined by FSP, the wealth
pending, dismissed or denied complaints with any regulatory authority or FSP's consumer complaint process. Unfavorable feedback may have been discovered through a check of complaints registered with a regulatory authority or complaints
past 11 years; E. Been terminated from a financial services firm within the past 11 years; F. Been convicted of a felony); 4. Fulfilled their firm review based on internal standards; 5. Accepting new clients. Evaluation criteria – considered: 6. One-year
evaluate quality of services provided to clients. The award is not indicative of the wealth manager's future performance. Wealth managers may or may not use discretion in their practice and therefore may not manage their clients' assets. The
as to future investment success, nor is there any guarantee that the selected wealth managers will be awarded this accomplishment by FSP in the future. Visit www.fivestarprofessional.com.

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Lindsey Ferguson

CDS®, CEO

Outcomes Begin With Harmony

Lindsey Ferguson, CEO of Harmony Advisors Group, LLC, is a Fiduciary and Wealth Advisor with over 35 years of experience, including 12 years on Wall Street and four years of institutional commodities trading on the Minneapolis Grain Exchange and the Kansas City Board of Trade.

Harmony

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Phone: 203-283-6535 • lindsey@harmonyagroup.com
www.harmonyadvisorsgroup.com

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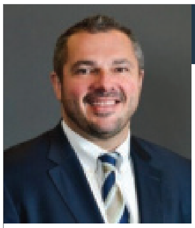

Brendan Wood

Senior Vice President, Financial Advisor

WOOD Wealth Management of LPL Financial

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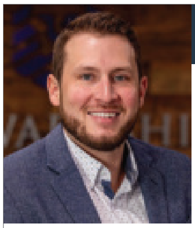
West Hartford, CT 06107
Phone: 860-840-3895
brendan.wood@lplfinancial.com
woodwealth.lpl.com

Brendan has faithfully served his individual and institutional clients for 16 years by adhering unwaveringly to a combination of prudent planning, value investing and old-school service, all at a reasonable cost.

Securities and advisory services offered through LPL Financial, a registered investment advisor, Member FINRA/ SIPC. Award based on 10 objective criteria associated with providing quality services to clients such as credentials, experience, and assets under management among other factors. Wealth managers do not pay a fee to be considered or placed on the final list of 2024 Five Star Wealth Managers.



Chris Albertson

Chief Executive Officer, CKA, CPFA®, MBA

At Stewardship Wealth Management, we offer a passionate, Christ-centered, client-centric approach aimed at conveying a strategic and altruistic vision. Our goal is to shepherd clients toward achieving the best spiritual and financial peace possible.

STEWARDSHIP Wealth Management

1701 River Run, Suite 904 • Fort Worth, TX 76107
Phone: 682-499-5800 • calbertson@mystwm.com
stewardship-wealth.com

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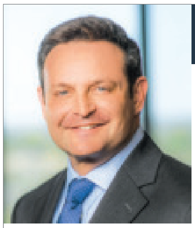

Steve Meeks

Financial Advisor, Co-Founder, President

Interlinc Financial offers holistic retirement planning across five critical areas: income, nursing and medical needs, tax reduction strategies, estate planning and risk management. Their approach ensures a solid retirement foundation by providing strategies for sustainable income, long-term care, tax minimization and asset protection.

interlinc Financial Advisors, Inc.

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Phone: 214-778-5645 • info@interlincfinancial.com
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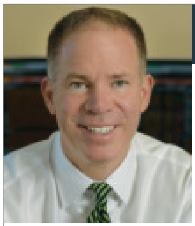

Bruce G. Allen

President

I created Bruce G. Allen Investments, LLC, to help our clients build, manage, protect and transition their wealth. We take a comprehensive approach to wealth management by touching on the four cornerstones of investments, credit and liability management, risk management and estate and trust matters.

Bruce G. Allen Investments, LLC

370 17th Street, Suite 3580 • Denver, CO 80202
Phone: 303-592-5535 • bruce@bgaillc.com
www.brucegalleninvestments.com

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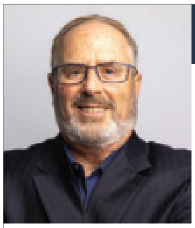

Elliot Kallen

President

What does retirement confidence look like for you? With 30-plus years of guiding financial journeys, I specialize in personalized strategies that reflect your aspirations and adapt to life's milestones. Together, we'll navigate the complexities of wealth, focusing on sustainability and growth. Let's secure your tomorrow with my expert guidance and the tools to get you further.

Prosperity™ Financial Group, Inc.

2333 San Ramon Valley Boulevard • San Ramon, CA 94583
Phone: 925-314-8503 • elliot@prosperityfinancialgroup.com
www.prosperityfinancialgroup.com

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This award was issued on 11/01/2024 by Five Star Professional (FSP) for the time period 02/13/2024 through 08/30/2024. 3,710 Connecticut-area wealth managers were
the time period 10/10/2023 through 04/30/2024. 4,255 Dallas/Fort Worth-area wealth managers were considered for the award; 342 (8 % of candidates) were named
area wealth managers were considered for the award; 224 (9% of candidates) were named 2024 Five Star Wealth Managers. This award was issued on 10/01/2024 by Five
of candidates) were named 2024 Five Star Wealth Managers. This award was issued on 07/01/2024 by Five Star Professional (FSP) for the time period 10/10/2023 through
was issued on 07/01/2024 by Five Star Professional (FSP) for the time period 10/10/2023 through 04/30/2024. 3,270 Houston-area wealth managers were considered for
03/13/2024 through 10/07/2024. 7,425 New Jersey-area wealth managers were considered for the award; 431 (6 % of candidates) were named 2025 Five Star Wealth
based solely on the disclosed criteria.

Wealth managers do not pay a fee to be considered or placed on the final list of Five Star Wealth Managers. The award is based on 10 objective criteria. Eligibility criteria – required: 1. Credentialed as a registered investment adviser (RIA) or a
manager has not; A. Been subject to a regulatory action that resulted in a license being suspended or revoked, or payment of a fine; B. Had more than a total of three settled or pending complaints filed against them and/or a total of five settled,
registered through FSP's consumer complaint process; feedback may not be representative of any one client's experience; C. Individually contributedw to a financial settlement of a customer complaint; D. Filed for personal bankruptcy within the
client retention rate; 7. Five-year client retention rate; 8. Non-institutional discretionary and/or non-discretionary client assets administered; 9. Number of client households served; 10. Education and professional designations. FSP does not
inclusion of a wealth manager on the Five Star Wealth Manager list should not be construed as an endorsement of the wealth manager by FSP or this publication. Working with a Five Star Wealth Manager or any wealth manager is no guarantee

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Joe Don Osbourn

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Osbourn Financial utilizes services built on four integrated competencies: financial industry knowledge, investment strategies and products, asset management technology and a commitment to ongoing research. Joe Don has devoted 29 years to helping families reach their financial goals.

Osbourn Financial

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josbourn@investmentctr.com • osbournfinancial.net

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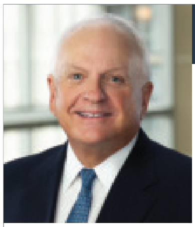

Michael B. Sandeen

CFP®, Managing Partner

Our mission is to understand your needs, wants and long-term goals. We want to help you develop, implement and monitor a strategy designed to address your individual situation. We understand the challenges families face today. These personal finance challenges can be overwhelming, from managing debt to saving for college to retirement. Our commitment is to utilize all of our resources to help you pursue your goals.

Sandeen & Giblin

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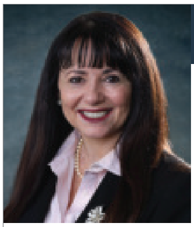

Maria Z. Nigro

Financial Advisor, CFP®, RICP®, CLTC®

A 19-year veteran of financial planning, Maria creates custom financial strategies for families and individuals. Thanks to the trust of her clients, Maria is a 2025 Five Star Wealth Manager award winner.

Nigro Wealth Management

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Phone: 201-297-8063
maria@nigrowealthmanagement.com

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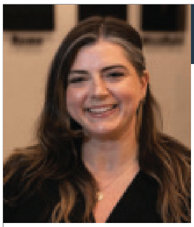

Jennifer L. Tarantino

Managing Director, Private Wealth Advisor

Helping People Accomplish Their Goals

As a daughter and father team, we bring diverse perspectives to working with clients, which results in higher-quality services and solutions. From our family to your family, we specialize in goals-based financial planning and legacy planning that strives to ensure you and your family have financial security for this generation and future generations.

FOXHILL WEALTH MANAGEMENT

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www.foxhillwm.com

Securities and advisory services offered through LPL Financial, a registered investment advisor, Member FINRA/SIPC.

Damien J. Paumi

Director of Financial Planning/Wealth Management, CFP®, AIF®, CRPC®, CPFA®

Damien has over 20 years of experience guiding clients on their financial journeys. As a managing member and founder of Wealthspring Financial Partners, he drives the vision of the firm, focusing on growth and partnership opportunities. Wealthspring bridges the gap between financial planning and tax advice, with CPAs and wealth managers working together to provide holistic, tax-intelligent guidance.

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Bryan P. Landadio

CFP®, CSA, Managing Director

Personal CFO Solutions
Comprehensive Financial Planners

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www.pcfos.com

With over 31 years of experience, Bryan is committed to understanding his client's unique needs and financial history, offering a complete range of financial planning services.

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considered for the award; 282 (8% of candidates) were named 2024 Five Star Wealth Managers. This award was issued on 07/01/2024 by Five Star Professional (FSP) for
2024 Five Star Wealth Managers. This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 12/12/2023 through 07/09/2024. 2,435 Denver-
Star Professional (FSP) for the time period 01/09/2024 through 08/09/2024. 1,567 San Francisco East Bay-area wealth managers were considered for the award; 85 (5%
04/30/2024. 1,907 Greater Texas-area wealth managers were considered for the award; 94 (5% of candidates) were named 2024 Five Star Wealth Managers. This award
the award; 208 (6% of candidates) were named 2024 Five Star Wealth Managers. This award was issued on 12/01/2024 by Five Star Professional (FSP) for the time period
Managers. Fee paid for use of marketing materials. Self-completed questionnaire was used for rating. This rating is not related to the quality of the investment advice and

registered investment adviser representative; 2. Actively licensed as a RIA or as a principal of a registered investment adviser firm for a minimum of 5 years; 3. Favorable regulatory and complaint history review (As defined by FSP, the wealth
pending, dismissed or denied complaints with any regulatory authority or FSP's consumer complaint process. Unfavorable feedback may have been discovered through a check of complaints registered with a regulatory authority or complaints
past 11 years; E. Been terminated from a financial services firm within the past 11 years; F. Been convicted of a felony); 4. Fulfilled their firm review based on internal standards; 5. Accepting new clients. Evaluation criteria – considered: 6. One-year
evaluate quality of services provided to clients. The award is not indicative of the wealth manager's future performance. Wealth managers may or may not use discretion in their practice and therefore may not manage their clients' assets. The
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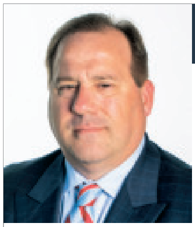

Carl Feldman

President

Feldman Financial Services, LLC

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Phone: 732-267-0354
feld15@netscape.net
FeldFinancial.com

Dedication, hard work and an honest approach to serving the needs of clients are overriding values that Carl focused on when he started his financial services career over thirty years ago. He has built his business using a philosophy geared toward helping people achieve their retirement dreams.

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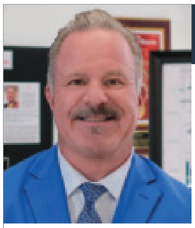

Gary Dean Hutto

President

HUTTO·Dean

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Orange, CA 92868
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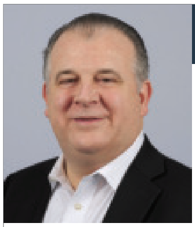

Joseph F. Brinker

President

For Joseph and Brinker Financial, providing financial services extends well beyond your investments. The team prides itself on maximizing clients' value in investments and life decisions. Whether you are planning for retirement, college, a wedding or a wealth transfer, Brinker Financial is your valued partner. With a reputation for integrity and a warm and welcoming atmosphere, they know their clients on a personal level.

Brinker Financial

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jbrinker@brinkerfinancial.com • www.brinkerfinancial.com

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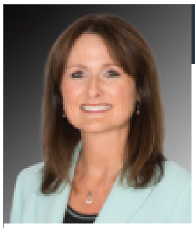

Kimberly Brumbaugh

Founder, Managing Partner

BRUMBAUGH wealth management

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Exton, PA 19341
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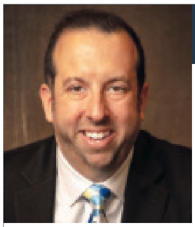
kbrumbaugh@brumbaughwealth.com
www.brumbaughwealth.com

As a fiduciary with over 25 years of experience and after a twelve-year career with Mercedes Benz, Kim built a team to uniquely address the complexities of affluent and high net worth individuals. Tax, estate and investment planning identifies gaps to avoid potential unintended future consequences for our clients.

Kimberly Brumbaugh is a Registered Representative and member of ensemble practice offering securities and advisory services through Cetera Advisor Networks LLC, Member FINRA/SIPC, a Broker-Dealer and a Registered Investment Advisor. Advisory services also offered through AdvisorNet Wealth Partners. Cetera is under separate ownership from any other entity.



Jon Sobotkin

Partner

Strategic Wealth for a Lasting Legacy.

Your wealth is complex — but managing it doesn't have to be. Jon Sobotkin of BBPWM helps you gain clarity and confidence by creating tailored strategies that align your wealth with your family's future. We ensure your money is working for you — not stressing you out. Take control of your financial future with expert guidance you can trust.

Blue Bell PRIVATE WEALTH MANAGEMENT

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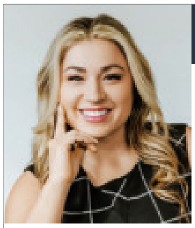

KJ Dykema

Founder, MRFC®

Your Journey Your Terms

I leverage 15-plus years combined in real estate, insurance and fiduciary expertise to create solutions for your future. Changes in your company or financial circumstances can make you feel trapped. Instead of being backed into a corner, let's break through the wall!

FAMILY RETIREMENT LLC

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Seattle, WA 98109
Phone: 425-610-9226 • kj@familyretire.com
www.familyretire.com

This award was issued on 12/01/2024 by Five Star Professional (FSP) for the time period 03/13/2024 through 10/07/2024. 7,425 New Jersey-area wealth managers were
the time period 07/25/2023 through 01/31/2024. 2,682 Orange County-area wealth managers were considered for the award; 140 (5% of candidates) were named 2024
area wealth managers were considered for the award; 303 (7% of candidates) were named 2024 Five Star Wealth Managers. This award was issued on 02/01/2025 by Five
were named 2025 Five Star Wealth Managers. This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 12/12/2023 through 07/09/2024.
materials. Self-completed questionnaire was used for rating. This rating is not related to the quality of the investment advice and based solely on the disclosed criteria.

Wealth managers do not pay a fee to be considered or placed on the final list of Five Star Wealth Managers. The award is based on 10 objective criteria. Eligibility criteria – required: 1. Credentialed as a registered investment adviser (RIA) or a
manager has not; A. Been subject to a regulatory action that resulted in a license being suspended or revoked, or payment of a fine; B. Had more than a total of three settled or pending complaints filed against them and/or a total of five settled,
registered through FSP's consumer complaint process; feedback may not be representative of any one client's experience; C. Individually contributedw to a financial settlement of a customer complaint; D. Filed for personal bankruptcy within the
client retention rate; 7. Five-year client retention rate; 8. Non-institutional discretionary and/or non-discretionary client assets administered; 9. Number of client households served; 10. Education and professional designations. FSP does not
inclusion of a wealth manager on the Five Star Wealth Manager list should not be construed as an endorsement of the wealth manager by FSP or this publication. Working with a Five Star Wealth Manager or any wealth manager is no guarantee

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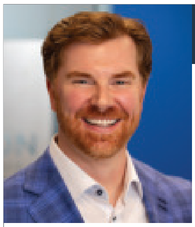

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Atlanta

This award was issued on 09/01/2024 by Five Star Professional (FSP) for the time period 11/14/2023 through 06/10/2024. 3,508 Atlanta-area wealth managers were considered for the award; 249 (7% of candidates) were named 2024 Five Star Wealth Managers.

Erik Thompson · Cornerstne Wealth Management, LLC · 706-342-0030

Mitzie Y. Wilson · FARTHER · 770-585-3738

Tim David Wyrobek · Crescent Wealth Advisory · 770-431-1260

Baltimore

This award was issued on 01/01/2025 by Five Star Professional (FSP) for the time period 04/10/2024 through 10/31/2024. 2,389 Baltimore-area wealth managers were considered for the award; 254 (11% of candidates) were named 2025 Five Star Wealth Managers.

Connor Flach · Oxenham Financial · 410-423-4480

Omar S. Jennings · TFG Private Wealth Management · 443-832-1903

Christopher W. Oxenham · Oxenham Financial · 410-423-4482

Joseph E. Parnes · Technomart Investment Advisors · 410-828-6555

Christopher Michael Ruspi · Applied Financial Wisdom · 301-570-8006

Boston

This award was issued on 02/01/2025 by Five Star Professional (FSP) for the time period 4/10/24 through 10/31/24. 4,671 Boston-area wealth managers were considered for the award; 528 (11 % of candidates) were named 2025 Five Star Wealth Managers.

Guillermo Alberto · Apex Wealth Group · 781-577-9072

Eric J. Brisebois · Vision Wealth Strategies, LLC · 617-762-0860

Gary M. Dennis · Tower Hill Financial Group, Inc. · 508-269-7900

Paul Michael Habib · ProWealth, LLC · 857-334-2575

Daniel Leveroni · Leveroni Financial Management · 781-848-9821

Joanne Leveroni · Leveroni Financial Management · 781-848-9821

Timothy A. Leveroni · Leveroni Financial Managment · 781-848-9821

Lucas Jon Noble · Noble Financial Group · 781-876-4190

D.J. Shah · LPL Financial · 781-237-9330

Samir K. Shah · Leveroni Financial Management · 781-848-9821

Nick Silva · ProWealth, LLC · 978-766-1427

Darren M. Violette · Profectus Financial Partners · 781-292-3112

Jay Woerdeman · Ameriprise Financial Services, LLC · 508-833-1359

This year, we honored 16 Boston-area investment professionals with the Five Star Investment Professional award.

Peter R. Magni · The Bulfinch Group · 617-291-5388

Charlotte

This award was issued on 08/01/2024 by Five Star Professional (FSP) for the time period 10/10/2023 through 04/30/2024. 1,690 Charlotte-area wealth managers were considered for the award; 99 (6% of candidates) were named 2024 Five Star Wealth Managers.

Charles Parks · CF Parks, Inc. · 704-637-6011

Chicago

This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 01/09/2024 through 08/09/2024. 6.273 Chicago-area wealth managers were considered for the award; 400 (6% of candidates) were named 2024 Five Star Wealth Managers.

Paul J. Donnelly · Robert W. Baird & Co. · 312-609-4454

Krzysztof Kris Garlewicz · ProsperiFi · 847-310-7133

Oliver Kramer · Hansom Wealth Management · 312-241-1929

Ryan McNeilly · Invesco, LLC · 847-824-4078

Paul Novak · T2 Asset Management, LLC · 888-354-8499

Michael K. Smith · Insight Financial Partners, LLC · 847-867-9271

Cincinnati

This award was issued on 9/1/24 by Five Star Professional (FSP) for the time period 12/12/23 through 7/9/24. 1,596 Cincinnati-area wealth managers were considered for the award; 200 (13% of candidates) were named 2024 Five Star Wealth Managers.

Timothy G. Powell · Concentric Wealth Management · 513-338-0083

considered for the award; 431 (6 % of candidates) were named 2025 Five Star Wealth Managers. This award was issued on 05/01/2024 by Five Star Professional (FSP) for
Five Star Wealth Managers. This award was issued on 11/01/2024 by Five Star Professional (FSP) for the time period 02/13/2024 through 08/30/2024. 4,532 Philadelphia-
Star Professional (FSP) for the time period 05/15/2024 through 11/29/2024. 3,439 Seattle-area wealth managers were considered for the award; 106 (3% of candidates)
2,685 St. Louis-area wealth managers were considered for the award; 187 (7% of candidates) were named 2024 Five Star Wealth Managers. Fee paid for use of marketing

registered investment adviser representative; 2. Actively licensed as a RIA or as a principal of a registered investment adviser firm for a minimum of 5 years; 3. Favorable regulatory and complaint history review (As defined by FSP, the wealth
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past 11 years; E. Been terminated from a financial services firm within the past 11 years; F. Been convicted of a felony); 4. Fulfilled their firm review based on internal standards; 5. Accepting new clients. Evaluation criteria – considered: 6. One-year
evaluate quality of services provided to clients. The award is not indicative of the wealth manager's future performance. Wealth managers may or may not use discretion in their practice and therefore may not manage their clients' assets. The
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FIVE STAR WEALTH MANAGERS — YOU NEED TO KNOW

Cleveland

This award was issued on 08/01/2024 by Five Star Professional (FSP) for the time period 10/10/2023 through 05/31/2024. 1,665 Cleveland-area wealth managers were considered for the award; 56 (3% of candidates) were named 2024 Five Star Wealth Managers.

Michael Moskal · MGO Inc. · 216-771-4242

David Sabo · Independence Capital Co., Inc. · 440-230-9390

Connecticut

This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 01/09/2024 through 08/09/2024. 6.273 Chicago-area wealth managers were considered for the award; 400 (6% of candidates) were named 2024 Five Star Wealth Managers.

John D’Agostino · Wise Wealth, LLC · 203-888-0096

Michael C. Kusick · Investmark Advisory Group · 203-953-3777

Denver

This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 12/12/2023 through 07/09/2024. 2,435 Denver-area wealth managers were considered for the award; 224 (9% of candidates) were named 2024 Five Star Wealth Managers.

Clark Griggs · Griggs Wealth Management · 303-799-6691

Jeffrey Hutcheson · Aspen Wealth Management · 720-870-7271

Garry Kirkland · Peak Wealth Advisors · 303-268-2213

Dallas/Fort Worth

This award was issued on 07/01/2024 by Five Star Professional (FSP) for the time period 10/10/2023 through 04/30/2024. 4,255 Dallas/Fort Worth-area wealth managers were considered for the award; 342 (8% of candidates) were named 2024 Five Star Wealth Managers.

Bradley S. Burnfield · LPL Financial · 817-326-1234

Tish Barbara Gray · TEG Wealth Advisors · 972-851-0004

Thomas M. Hubbell · Maverick Wealth Management · 817-945-3335

Michael J. O’Reilly · LPL Financial/Dallas Financial Advisors · 214-217-4289

Keith A. Rhodus · Clare Market Investments, LLC · 866-659-1019

Daniel Stewart · Revere Asset Management · 855-732-5932

Kane Vines · Expound Wealth Management · 469-409-7283

Detroit

This award was issued on 05/01/2024 by Five Star Professional (FSP) for the time period 09/05/2023 through 02/29/2024. 3,651 Detroit-area wealth managers were considered for the award; 278 (8% of candidates) were named 2024 Five Star Wealth Managers.

Andrew T. Bearre · Schwartz & Co. · 248-644-2701

Thomas J. DelPup · Blackheath Capital Management · 248-650-8280

Laurie Sue Stegenga · Foresight Capital Management Advisors, Inc. · 877-429-4690

Greater Texas

This award was issued on 07/01/2024 by Five Star Professional (FSP) for the time period 10/10/2023 through 04/30/2024. 1,907 Greater Texas-area wealth managers were considered for the award; 94 (5% of candidates) were named 2024 Five Star Wealth Managers.

Matthew G. Hartman · SA Financial Solutions, LLC · 210-497-8743

Rudy Torres · Torres Financial Services · 210-342-2700

Houston

This award was issued on 07/01/2024 by Five Star Professional (FSP) for the time period 10/10/2023 through 04/30/2024. 3,270 Houston-area wealth managers were considered for the award; 208 (6% of candidates) were named 2024 Five Star Wealth Managers.

Richard Becker · Texas Retirement Planners · 832-374-0141

Robert P. Bruns · NFA Wealth Management · 281-402-1915

Louis Merkle III · Merkle Financial Group · 281-405-5522

Michael Neuenschwander · Outlook Wealth Advisors · 281-872-1515

Indianapolis

This award was issued on 09/01/2024 by Five Star Professional (FSP) for the time period 11/14/2023 through 05/31/2024. 1,650 Indianapolis-area wealth managers were considered for the award; 143 (9% of candidates) were named 2024 Five Star Wealth Managers.

Steve Barrett · Waverly Advisors, LLC · 765-758-7022

David Hobbs · Hobbs Wealth Management · 317-559-2940

Milwaukee

This award was issued on 06/01/2024 by Five Star Professional (FSP) for the time period 09/12/2023 through 03/29/2024. 1,647 Milwaukee-area wealth managers were considered for the award; 178 (11% of candidates) were named 2024 Five Star Wealth Managers.

Nathan R. Derks · Landolt Securities · 262-334-9131

New Jersey

This award was issued on 12/01/2024 by Five Star Professional (FSP) for the time period 03/13/2024 through 10/07/2024. 7,425 New Jersey-area wealth managers were considered for the award; 431 (6% of candidates) were named 2025 Five Star Wealth Managers.

Alison Berman · Palisade Capital Management, LP · 201-346-5730

Christopher R. Collins · Warren Wealth Associates · 908-769-9400

Nicholas S. Gentile · Barnum Financial Group · 908-605-3703

Darrell Haytaian · Chester Financial Group, LLC · 908-879-9730

Avram Yitzchak Katz · Avram Y. Katz Investment Advisory Services · 973-226-7580

Brian Keller · Summit Financial · 973-285-3617

James F. King Jr. · King Financial Network · 732-845-1929

Lawrence V. O’Connor III · Merrill Lynch · 973-301-7763

Alexander Daniel Orlando · Tributary Wealth Management · 862-359-8037

Jerome N. Pasichow · Equity Services · 732-334-7080

Lorraine R. Salvo · Palisade Capital Management, LP · 845-667-0550

David L. Scher · Krim Associates · 201-632-2044

Adam J. Seltzer · Barnum Financial Group · 973-487-9791

David Weinerman · Weinerman Wealth Management · 201-321-1510

Orange County

This award was issued on 05/01/2024 by Five Star Professional (FSP) for the time period 07/25/2023 through 01/31/2024. 2,682 Orange County-area wealth managers were considered for the award; 140 (5% of candidates) were named 2024 Five Star Wealth Managers.

Mark I. Burton · Burton Financial & Insurance Services · 949-581-9188

Bob Chitrathorn · Simplified Wealth Management Wealth Planning by Bob Chitrathorn · 951-465-6409

Matthew Todsen · MKT Wealth Management · 949-209-9441

Phoenix

This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 12/12/2023 through 07/09/2024. 2,431 Phoenix-area wealth managers were considered for the award; 101 (4% of candidates) were named 2024 Five Star Wealth Managers.

Anthony A. Del Pozzo · Vista Financial Group · 480-284-6547

Matthew Walker · Fortitude Family Office · 602-550-3432

Philadelphia

This award was issued on 11/01/2024 by Five Star Professional (FSP) for the time period 02/13/2024 through 08/30/2024. 4,532 Philadelphia-area wealth managers were considered for the award; 303 (7% of candidates) were named 2024 Five Star Wealth Managers.

Michael A. Bonventure · Gryphon Financial Wealth Advisors, LLC · 856-287-4234

Benjamin Chambers · Elevation Wealth · 484-441-0390

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Wealth managers do not pay a fee to be considered or placed on the final list of Five Star Wealth Managers. The award is based on 10 objective criteria. Eligibility criteria – required: 1. Credentialed as a registered investment adviser (RIA) or a
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registered through FSP’s consumer complaint process; feedback may not be representative of any one client’s experience; C. Individually contributedw to a financial settlement of a customer complaint; D. Filed for personal bankruptcy within the
client retention rate; 7. Five-year client retention rate; 8. Non-institutional discretionary and/or non-discretionary client assets administered; 9. Number of client households served; 10. Education and professional designations. FSP does not
inclusion of a wealth manager on the Five Star Wealth Manager list should not be construed as an endorsement of the wealth manager by FSP or this publication. Working with a Five Star Wealth Manager or any wealth manager is no guarantee

Erik John Hanhauser · Oppenheimer & Co. Inc. · 610-225-8972

Jeanne M. Helmar · Harmony Wealth Management · 215-699-6511

Scott E. Holstein · Prudent Wealth Management Inc. · 800-458-9330

Pittsburgh

This award was issued on 06/01/2024 by Five Star Professional (FSP) for the time period 09/12/2023 through 03/29/2024. 1,854 Pittsburgh-area wealth managers were considered for the award; 231 (13% of candidates) were named 2024 Five Star Wealth Managers.

Ronald A. Gestiehr · Lifetime Financial Growth, LLC · 412-391-6700

Portland

This award was issued on 05/01/2024 by Five Star Professional (FSP) for the time period 07/10/2023 through 01/31/2024. 1,672 Portland-area wealth managers were considered for the award; 100 (6% of candidates) were named 2024 Five Star Wealth Managers.

Anthony Bruce Lishka · Lishka Financial · 503-608-7171

Tammi Ortega · Alpina Wealth Management · 503-675-2295

Rhode Island

This award was issued on 12/01/2024 by Five Star Professional (FSP) for the time period 02/13/2024 through 08/30/2024. 791 Rhode Island-area wealth managers were considered for the award; 110 (14% of candidates) were named 2025 Five Star Wealth Managers.

Robert Rebussini · Integrated Financial Partners · 401-490-0290

Richmond

This award was issued on 11/01/2024 by Five Star Professional (FSP) for the time period 02/13/2024 through 08/30/2024. 1,223 Richmond-area wealth managers were considered for the award; 74 (6% of candidates) were named 2024 Five Star Wealth Managers.

Keith Collins Reagan Sr. · Reagan Holloway · 757-941-5200

Sacramento

This award was issued on 02/02/2025 by Five Star Professional (FSP) for the time period 05/15/2024 through 11/29/2024. 1,288 Sacramento-area wealth managers were considered for the award; 39 (3% of candidates) were named 2025 Five Star Wealth Managers.

Ryan Breedwell · Capitol Planning Group · 916-570-6001

Courtney McHarg · McHarg & Associates Wealth Planning · 916-922-5812

John J. Zezini · Granite Bay Wealth Management · 916-400-9791

San Diego

This award was issued on 12/01/2024 by Five Star Professional (FSP) for the time period 02/13/2024 through 08/30/2024. 2,588 San Diego-area wealth managers were considered for the award; 190 (7% of candidates) were named 2025 Five Star Wealth Managers.

Christopher Gall · Luminous Financial Group, LLC · 858-764-4300

John Lohrenz · JKL Wealth Management · 858-535-1705

Larry Manuel · Capital Accounts · 858-550-2811

San Francisco East Bay

This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 01/09/2024 through 08/09/2024. 1,567 San Francisco East Bay-area wealth managers were considered for the award;85 (5% of candidates) were named 2024 Five Star Wealth Managers.

Michael David Allard · CalBay Investments, Inc. · 925-743-3360

Mark Greenberg · Wealth & Tax Planners, LLC · 925-938-4300

Tom Nohr · Successful Financial Education Workshops · 510-888-7171

Sarasota

This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 01/09/2024 through 08/09/2024. 756 Sarasota-area wealth managers were considered for the award; 68 (9% of candidates) were named 2024 Five Star Wealth Managers.

Katherine "Kate" L. Hyland-Mercer · Ferris Wheel Finance, Inc. · 941-483-3600

Seattle

This award was issued on 02/01/2025 by Five Star Professional (FSP) for the time period 05/15/2024 through 11/29/2024. 3,439 Seattle-area wealth managers were considered for the award; 106 (3% of candidates) were named 2025 Five Star Wealth Managers.

Kathleen Hobart · Heritage Wealth Advisors · 425-709-2345

Edward L. Ward · Robinswood Financial, LLC · 425-296-1611

Southwest Florida

This award was issued on 03/01/2025 by Five Star Professional (FSP) for the time period 05/15/2024 through 12/13/2024. 898 Southwest Florida-area wealth managers were considered for the award; 81 (9 % of candidates) were named 2025 Five Star Wealth Managers.

Amy Novakovich · Nova Wealth Management · 239-444-1794

St. Louis

This award was issued on 10/01/2024 by Five Star Professional (FSP) for the time period 12/12/2023 through 07/09/2024. Fee paid for use of marketing materials. 2,685 St. Louis-area wealth managers were considered for the award; 187 (7% of candidates) were named 2024 Five Star Wealth Managers.

Michael A. Daley · Peakview Strategies · 636-200-8275

Kevin M. Landy · Merrill Lynch · 314-290-4924

Twin Cities

This award was issued on 12/01/2023 by Five Star Professional (FSP) for the time period 03/13/2023 through 09/29/2023. 4,280 Twin Cities-area wealth managers were considered for the award; 637 (15% of candidates) were named 2024 Five Star Wealth Managers.

Jesse Babich · EFS Advisors/Advanced Advisor Group · 218-208-8775

Troy A. Gourde · Investors Financial Group · 763-525-0001

Rebecca Trethewey · EFS Advisors · 763-552-6057

Washington, D.C.

This award was issued on 10/16/2024 by Five Star Professional (FSP) for the time period 01/09/2024 through 08/09/2024. 3,408 Washington D.C.-area wealth managers were considered for the award; 172 (5% of candidates) were named 2024 Five Star Wealth Managers.

John Charles Hill · Mass Mutual Greater Washington · 443-799-3320

Andrew Lewis · The Lewis Financial Group · 703-288-1272

Davey Quinn · Pine Harbor Wealth Management · 240-200-4984

Westchester

This award was issued on 07/01/2024 by Five Star Professional (FSP) for the time period 09/12/2023 through 03/29/2024. 831 Westchester-area wealth managers were considered for the award; 79 (10% of candidates) were named 2024 Five Star Wealth Managers.

Michael J. Longo · Longo Financial Services · 914-902-0060

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registered investment adviser representative; 2. Actively licensed as a RIA or as a principal of a registered investment adviser firm for a minimum of 5 years; 3. Favorable regulatory and complaint history review (As defined by FSP, the wealth
pending, dismissed or denied complaints with any regulatory authority or FSP's consumer complaint process. Unfavorable feedback may have been discovered through a check of complaints registered with a regulatory authority or complaints
past 11 years; E. Been terminated from a financial services firm within the past 11 years; F. Been convicted of a felony); 4. Fulfilled their firm review based on internal standards; 5. Accepting new clients. Evaluation criteria – considered: 6. One-year
evaluate quality of services provided to clients. The award is not indicative of the wealth manager's future performance. Wealth managers may or may not use discretion in their practice and therefore may not manage their clients' assets. The
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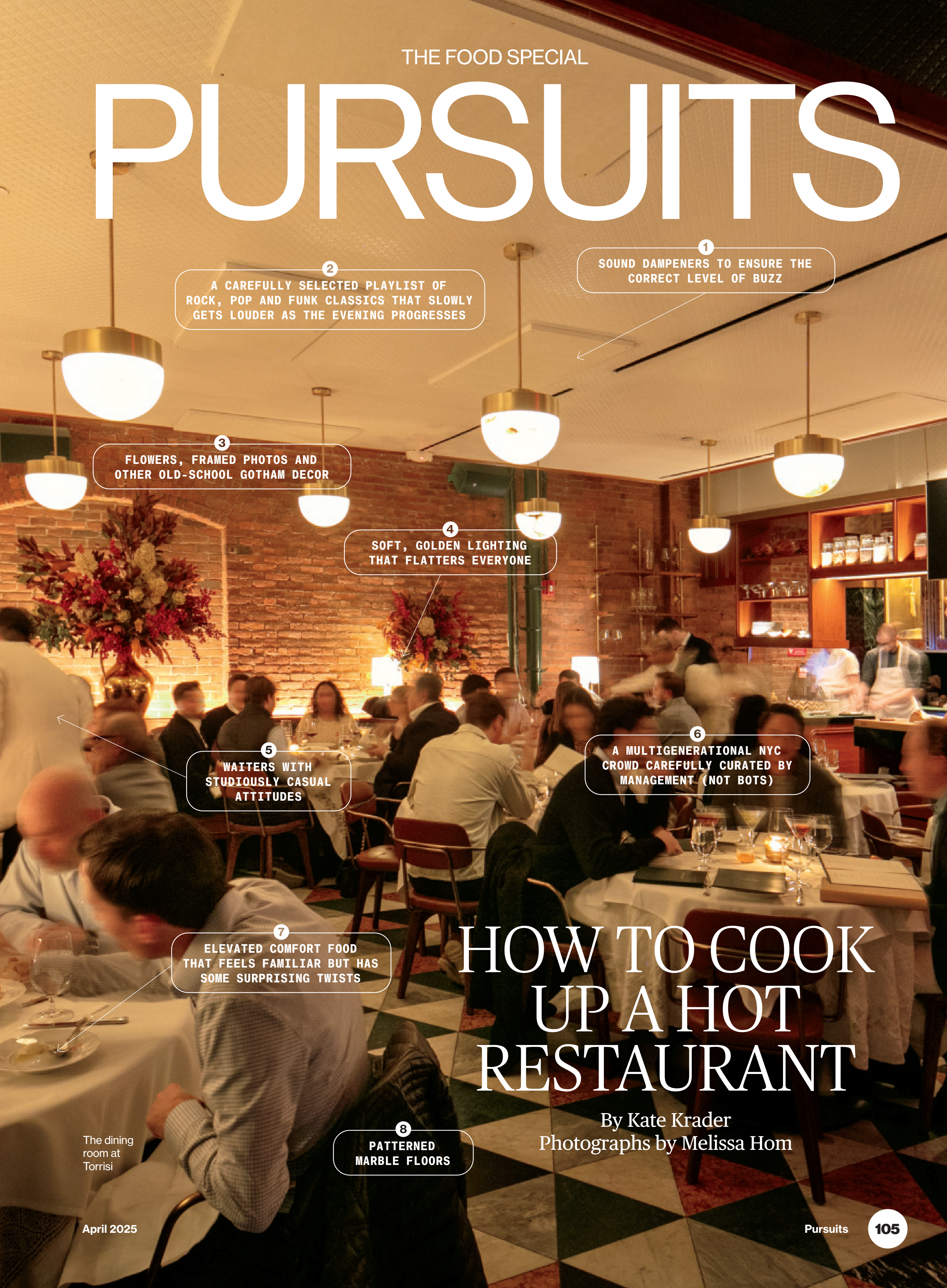

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⑧ PATTERNED MARBLE FLOORS

The dining room at Torrisi

HOW TO COOK UP A HOT RESTAURANT

By Kate Krader

Photographs by Melissa Hom

With waiting lists up to 7,000 on some nights, there's a secret sauce to how New York's most elite eateries got that way

It's a Monday night at Torrisi in Manhattan's SoHo neighborhood, and the brick-lined dining room is packed. At one table, a cashmere-clad young couple gleefully plots a coming vacation. At a round banquette, a group of older women in blazers clink glasses over a big birthday. Rows of guys directly in from finance jobs wave around big watches. The buzz is energetic; laughter ripples around the room. Our server, a smiling goateed guy in a cream-colored tuxedo jacket, comes by. "Hi," he says, leaning in. "I'm Fernando, and we're going to have fun tonight." I have to believe him: Every table is celebrating. And it's only 5:30 p.m. on the slowest restaurant night of the week.

"We call it 'Torrisi, the Musical,'" says Rich Torrisi, the chef behind this dynamic Italian American sibling of the world-famous Carbone, who stops by our table. "We make everyone feel like they're part of the show, and that we're celebrating with them."

The music rises ever so slowly through speakers subtly positioned high along the walls, until eventually the energy reaches concert levels. After all, on a given night, the waitlist to get in can top 7,300—double the number of seats at Carnegie Hall.

As insane as the demand is, Torrisi isn't alone. It's one of a tiny tier of New York restaurants whose seats are so coveted that *Saturday Night Live* producers will attempt to trade show tickets for reservations. (That's happened at Chez Fifi uptown.) "You may have an Amex black card, or a big J.P. Morgan account. But nothing screams 'I have social clout' like an 8 p.m. table," says Simon Kim, founder of Gracious Hospitality Management. "It's never been harder to get reservations in New York City."

Kim's dining rooms include Coqodaq (where 1,500 people are usually on the nightly waitlist for Korean fried chicken and Champagne) and the glam Korean steakhouse Cote (about 2,000). They're among the eight or so places—including the sultry Bridges down in Chinatown, the cozy wood-paneled Le Veau d'Or uptown and the '80s-flashback-vibed Corner Store in SoHo—that represent the hottest tables in not just New York but, I'd confidently argue, the world. In the past few months, I've eaten in Paris, Tokyo and London, where I live. Nothing, not even attending a pop-up of the world-renowned Noma in Kyoto, approached the level of envy I earned by scoring that 5:30 table at Torrisi.

"You can't touch New York right now," says Marc Lotenberg, the co-founder of members-only reservation platform Dorsia, which raised $50 million in February and operates in 21 markets worldwide, including Miami, Dubai and Ibiza. "Dining is the new nightlife. That's especially true in New York." Or, as Corner Store co-founder and partner and Catch Restaurant Group partner Eugene Remm puts it: "It's the hunger games here now."

Of course, the city's high-end restaurants have long been premium places to see and be seen, starting with the original Delmonico's in the late 1820s through power lunches at the Four Seasons in the 1970s and Balthazar in SoHo in the '90s. Jack Dempsey's and Lüchow's—restaurants that ruled the roost after Prohibition—had equally avid audiences. Chef Mario Carbone, co-founder of Major Food Group, which owns Carbone and Torrisi, says top restaurants "have always been hard to get into. We just now have a much larger forum—social media—to complain about it."

Call it the TikTok effect. Angie Rito, the co-chef and co-owner of another Italian American hot spot, Don Angie, says it has broadened the audience of diners geographically and generationally. More people know about these places than ever before and want to participate. Which leads to another new phenomenon, Rito says: "People didn't use to stand in line."

So what's the winning formula for a top-tier place like hers, one that attracts diners across an array of demographics? It's an almost mystical combination of buzzy energy plus good—often great—food, supercharged with cozily familiar hospitality. Underpinning this delicate concoction are interiors designed to be cool but not trendy, delivering an immersive sense of authenticity even at brand-new establishments.

Here are five key elements.

PARTY VIBE

The minute you walk into Coqodaq, there's an electricity—as if you've arrived at the club. Most tables sit along an aisle that functions like a fashion runway, complete with glowing arches to glide through. There are constant cries of recognition from tables watching the scene: At all of these hot new restaurants, the ability to scope out people as they enter is carefully orchestrated by the designers, including Le Veau d'Or's elevated entrance and Corner Store's long, narrow layout. To accompany Coqodaq's signature fried chicken—it arrives in a ceramic bucket, glistening and thick-crusted—there's a list of supplemental dishes for big spenders. An $870 tin of beluga caviar pairs well with the place's notable Champagnes (it has the largest list in the US). It all amps up the celebratory vibe. You may not realize that the music gets louder and faster as the night wears on, but you will notice you're having fun.

INTERIORS WITH CHARACTER

At SoHo's groovy Corner Store, there's invariably a line down the block by 5 p.m. If the would-be customers

■ ILLUSTRATIONS BY TOMI UM

THE CORNER STORE

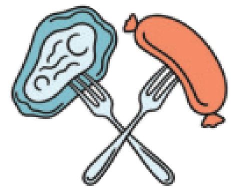
A line forms in front of the Corner Store by 5 p.m. every night

make it inside, they'll find design themes shared widely across this field: soft, golden lighting that evokes the hours right before sunset; a medley of banquettes and tables that bring to mind a classic Gotham hangout; an array of bric-a-brac on the walls. (See also the horse paintings at the Polo Bar and the mishmash of mirrors and artworks decorating Le Veau d'Or.) Checkered marble floors are another throwback theme, plus mahogany-brown wood paneling, upholstered seats, deep red and green tones, and art deco accents. It feels busy but not fussy, and the mix of textures (and discreet sound-dampening panels) stops the din from growing deafening. The Corner Store's setup comes courtesy of celebrated designer David Rockwell, who also fashioned the grand bronzed interior at Coqodaq. "We set about creating a story that celebrates all of the best eccentricities and is rooted in a sense of both time and place," he says.

RELAXED SERVICE

At elite places everywhere, waiters, hosts and bartenders have always been an essential part of the equation, but the style of service has changed. The key used to be making customers feel as if they were being respectfully—even fearfully—coddled, like the Dowager Countess on *Downton Abbey*. (That, or condescended to.) Now the top spots employ people you want to hang out with. At Bridges, a Chinatown canteen that opened last fall, the crowd looks as if they're on the first leg of a fun night out; so does the staff. They're up for a chat without any off-putting pretension. If you're deciding on a wine to complement one of chef Sam Lawrence's modern American dishes—maybe the luxe sea urchin custard—a guy in a mohair sweater you wish you owned will pull up a chair and talk you through the great options.

COMFORT FOOD



Another commonality: the food's accessibility. Whether the place features European or comfort Korean or an international mix, rarely will you find a dish that requires a translation or much explanation—though you can expect a twist. At Torrisi, zeppoli, the classic Italian street-food dessert, are served crispy and hot, but savory instead of sweet, on a plate of deep-red cured Italian and American hams. At Corner Store the most popular appetizer is a five-cheese pizza roll—just like your mom used to microwave but much, much better. At Le Veau d'Or, oysters might come with a row of chubby sausages—because why not highlight a little-known French snack? And, of course, there are chef Seung Kyu Kim's chicken nuggets with caviar at Coqodaq.

CULLING THE CROWD

One difference from the buzziest places in the past is that owners now decline to pack their bars four and five customers deep. What once was a hallmark of a place like Balthazar—where you could easily wait 15 minutes to order a martini—has now almost vanished. That's in part because you won't get past the host stand at Torrisi, Carbone or the Polo Bar if you don't have a reservation. And by the way, you're almost certainly not getting that res on Resy or OpenTable. The crowds at these places have the manager's personal email, or they're using platforms such as Dorsia to lock in a table at a promised price.

But assuming you've made it in, you'll find a carefully curated room. The power seats change depending on the space: At Torrisi they're the semicircular banquettes in the main room in the back; at Chez Fifi, where Scarlett Johansson, Colin Jost and Chris Rock recently dined, the best seats are a pair of booths that operate as places where you can be seen but not interact with anyone.

The single greatest trick restaurateurs can pull is to keep that heat on a steady burn after the initial buzz has worn off. They do this by developing a base of regulars who came when a place was first hot and want to stick around. "This idea of longevity is something we've tried to carry to Bridges in a big way," co-owner Nicolas Mouchel says. Bridges keeps the bar and a few tables open every night to accommodate walk-ins and to be neighborhood-friendly. "Right now we might be popular, but in a dining scene as competitive as New York, the crowd inevitably moves on to the next new opening. Building a community takes time."

The Corner Store's Remm has another piece of advice for would-be NYC restaurateurs. "Don't tell the city you're a hot restaurant," he says. And don't deliberately set out to build one either: "A hot restaurant is a red flame." That never lasts, he adds. "We want a blue flame; one that stays consistent for years."

SPICE UP YOUR LIFE

Peppercorns Are Popping Off

By Matthew Kronsberg
Photograph by Isa Zapata

Ari Weinzweig is a peppercorn obsessive. Last year his cult-favorite restaurant in Ann Arbor, Michigan, Zingerman's Roadhouse, used about 1,500 pounds—three-quarters of a ton—of the Tellicherry variety for his wildly popular black pepper fries as well as other menu staples. Such was the demand that it even began selling 2-ounce jars of the peppercorns, which are also available for $9.50 through the Zingerman's website. He even named his black-and-white corgi Pepper.

The spice, historically the culinary world's most versatile and in-demand character actor, is currently taking a star turn. Some chefs now name-check varietals on their menus, and Lior Lev Sercarz, owner of La Boîte, one of the industry's preeminent spice suppliers, regards the interest as an extension of the obsession for ingredients such as salt and coffee. It doesn't hurt that piperine, an alkaloid found in black pepper, has been credited not only with antioxidant and anti-inflammatory properties but also with increasing serotonin levels, conferring a sense of well-being.

"Good-quality pepper is strong flavored, aromatically complex and palate tingling," says another peppercorn enthusiast, Madalyn Durrant, chef-partner of Chicago's Bar Parisette. "And yet it manages to complement a wide array of other flavors without overwhelming them."

The rainbow of different peppercorns to know is expanding. Jeremy Chan, chef of the adventurous two-Michelin-star Ikoyi in London, keeps about 30 varieties on hand, including Penja peppercorns grown in the volcanic soils of Cameroon and pungent, dusky red Cambodian Kampot peppercorns. The strawberry- and citrus-tinged gola peppercorns from Sierra Leone provide a bright counterpoint to the richness of his caramelized chicken-wing broth. "Fifteen years ago the premium pepper market was nonexistent," Chan says. Now the public is clueing in to its vastness, "from floral to smoky, aromatic to almost infinitely lingering."

Increasingly restaurants are featuring au poivre preparations as an adaptable, irresistible showcase for peppercorn pyrotechnics. At Recoveco in South Miami, chefs Nicolas Martinez and Maria Teresa Gallina serve a rib-eye with a red banana au poivre sauce. (Coincidentally it's inspired by a recipe in Chan's *Ikoyi* cookbook.) Their version calls for a half-dozen peppercorn varieties, including local black and fresh green ones grown trellised between sapodilla trees about 20 miles southwest in Redland. The Portrait Bar at New York's Fifth Avenue Hotel features a $20 hot dog au poivre in which a spread of earthy Tellicherry and citrusy Sarawak peppers delivers "snap and spice," says chef Andrew Carmellini.

Look hard enough, and you'll find peppercorns across all courses. At Manhattan's Midtown cocktail bar Monkey Thief, spiky-tailed comet peppers are the magic ingredient in the Major Tom cocktail, which is modeled on the Thai soup tom kha. Cheetie Kumar, chef and co-owner of Ajja in Raleigh, North Carolina, macerates strawberries with Tellicherry pepper for her custard-like posset dessert.

The primacy of peppercorns can't be understated, says Scott Franqueza, executive chef of High Hampton in Cashiers, on the other side of the state, where the signature dish is peppercorn-crusted beef tenderloin served with a green peppercorn jus. "The peppercorn is almost as, if not more, important than the beef itself."

Varieties to Know Now

Chefs rely on a small coterie of importers and merchants whose colorful peppercorns crack with an intensity of flavor

BLACK

Think of the Curio Spice Co.'s Sri Lankan black pepper as the perfectly tailored blue blazer of spices. Its cleanly pungent medium heat goes well with everything. *$9 for 2 oz*

PURPLE

Burlap & Barrel's direct trade approach turns up uncommon spices such as Vietnamese Vinh Linh peppercorns. Fully ripened on the vine before drying, they sport an indigo hue and a sweet strawberry scent. Grind some onto tomatoes, peaches or berries. *$12 for 2.2 oz*

WHITE

Grown in the volcanic soil of Cameroon's Penja Valley, Kalustyan's petite peppercorns are mildly musky, with a sharp—though not intense—heat and a woodsy finish. *$8 for 1 oz*

GREEN

Part of the Voyager Collection, a collaboration between famed chef Eric Ripert and La Boîte spices, these green peppercorns are harvested before they ripen and then freeze-dried. The process preserves their herbal, slightly tart taste and renders them mild and crisp enough to eat whole. *$9 for 1.25 oz*

RED

Peppercorns from Cambodia's Kampot region are some of the world's most prized. Among them, the reddish-orange ones sold by Zen Spice Traders (and sourced from producer La Plantation) are particularly treasured for their distinctive sweetness and prickly heat. *$18 for 4 oz*

PINK

Sure, pink peppercorns technically aren't from the same genus as most black and white peppers. You want them anyway. Spicewalla's come from the Brazilian *Schinus terebinthifolius*, in the cashew family, with a sweet-tart taste that's as bright as their colorful hulls. *$8 for 0.7 oz*

COMET TAIL

Not all peppercorns are round. Curio Spice Co.'s comet tail, or cubeb, pepper is a distinct species. Distinguished by its trailing stem and minimal heat, it goes particularly well with citrus and often appears as a botanical in gin. *$12 for 1.75 oz*

LONG RED KAMPOT

Before round black pepper was king, the long variety dominated spice routes. The red Kampots from the Reluctant Trading Experiment carry a little more heat, with a compelling musky-fruity scent. *$12 for 2 oz*

KAREL BALAS

GREAT PLATES

THIS OLD THING?

By Charles Curkin

Parisians have always had a penchant for vintage shopping. Every weekend, browsers clad in Karl Lagerfeld-era Chloé flock to the Saint-Ouen flea market in search of original Eileen Grey armchairs and Louis XV commodes. Lately, thanks to an appointment-only boutique tucked in a hidden courtyard in the Canal Saint-Martin neighborhood, their attention has shifted to the dining table.

At Blanche Patine, which specializes in early 20th century French ceramics, founder Cécile Viarouge has handpicked a joyful profusion of terrines, egg cups and wine glasses, stacked floor to ceiling on shelves in a 1,300-square-foot gem of a space.

Viarouge's expertise is in sourcing hardy yet elegant heirloom-quality *Terre de Fer* (ironstone) pieces at flea markets, auctions and estates. When needed, she personally applies the traditional Japanese *kintsugi* technique to broken ceramics, in which the signs of repair are intentionally visible, even embellished. She describes her ethos as "embracing imperfections and giving pieces new life."

Those imperfections are part of what's made Viarouge's showroom, opened in 2016, so popular of late. (She says her revenue rose 50% last year.) It's also a draw for insiders and tastemakers from the worlds of art (dealer

Where Else to Shop in Paris for Vintage Tableware

AU BAIN MARIE

This Rive Gauche institution, around since 1977, has two locations stuffed to the gills with china, cutlery, ancient ice buckets and porcelain *objets*. “If I break a dish, I’ll go there to replace it,” says interior designer Juan Montoya, who has a pied-à-terre in the 6th arrondissement. “Mixing china is far more interesting than matching.” *59 boulevard Raspail and 56 rue de l’Université; aubainmarie.com*

DROUOT

For those willing to hunt, some of the best vintage finds in Paris aren’t in shops but on the auction block. Paris-based artist Azzedine Saleck says his closest friends often procure antique and vintage tableware at auctions held inside the famed Hôtel Drouot, in the 9th arrondissement. For those who can’t raise a paddle in person, bidding is also available online. *9 rue Drouot; drouot.com*

AXS DESIGN

Like Blanche Patine, this boutique—down an alley in a hidden courtyard near the Bastille—feels like a design lover’s secret. Owned by Ariel Novak and Sydney Sabatier, the brick-and-mortar AXS Design location is another floor-to-ceiling trove of vintage and antique tableware, as well as other home decor pieces, fine art and furniture. *12 rue Saint Sabin; axsdesign.fr*

Philippe Ségalot); fashion (Destree co-founder Géraldine Guyot-Arnault, daughter-in-law of LVMH’s Bernard Arnault); and, of course, gastronomy. Viarouge has sold pieces to renowned chefs such as Mathieu Escoffier of Bonjour Ma Cuisine in Singapore and Arnaud Donckele of Plénitude, the sumptuous three-Michelin-star restaurant where Blanche Patine tableware is used nightly to present dishes including grilled oysters with Champagne and mint, and smoked crab topped with a sabayon.

“Chef Donckele wishes to welcome guests in a surprising manner,” says Alexandre Larvoir, Plénitude’s general manager. Viarouge, he adds, is kept on speed dial in case of breaks.

Blanche Patine’s customers are part of a global surge in spending on vintage goods. The market for secondhand fashion and furniture has exploded: In 2023 it topped $200 billion, and it’s expected to almost double by 2030. American interior designer Timothy Corrigan, who splits his time between Los Angeles and Paris, says he’s observed a “huge resurgence in antique china” as more clients embrace entertaining at home post-pandemic. “The cost of vintage table settings has skyrocketed on auction platforms, and more and more auction houses are holding special sales devoted exclusively to tableware,” he notes. Despite rising prices, Corrigan says, he continues to find bargains. “I’m still paying less than if I was buying from Pottery Barn.”

To be sure, the pieces at Blanche Patine are no steal: Prices range from €300 to €2,000 ($325 to $2,167) for a single serving platter. But with luxury shoppers increasingly seeking items that are one-of-a-kind, many don’t think twice about splurging with a dealer they trust. “Finding exceptional pieces, especially in perfect condition, is incredibly difficult,” Viarouge says. “My role is to do that work for them.”

Olivier Gautschoux, a native Parisian and co-founder of Etéline, a gallery in New York City that specializes in French designers, makes frequent trips home to visit auction houses, the flea market and shops such as Blanche Patine to keep an eye on what influential shoppers are buying. “The use of ancient techniques and craftsmanship is key,” Gautschoux says of the appeal of vintage tableware. “The goal is not just to own them but to keep them for a lifetime.” Plus, he says, “it becomes tiresome to always look for the new.”

For designers, chefs and collectors alike, vintage pieces offer more than mere style—they bring a sense of history and permanence. Viarouge knows this. And if sales ever slow down, she has a backup plan for Blanche Patine: “I’ll make it into a museum.” B

Blanche Patine offers mismatched tableware in similar hues (opposite page), stacked on shelves up to the ceiling

Chicken skin butter at Le Coq

INSIDER INGREDIENT

Butter, But Better

By Kate Krader

When you order a cut of charred, dry-aged beef at LT Steak & Seafood on Ocean Drive in Miami, the attention-getting component isn't the steak: It's the dusky red slab of cowboy butter that comes with it. Speckled with chopped garlic, cayenne, paprika and cumin, the addictive topping has been such a popular flavor-boosting embellishment that chef Laurent Tourondel now slaps it on top of every order of meat off the grill.

At Le Coq in La Jolla, California, there's been an equally enthusiastic reaction for chef Tara Monsod's bread service. Here chicken skin is cooked low and slow to a crumbling crisp, before being folded into silky butter to serve with fresh-baked baguettes.

When did fat get so fun? The short answer is around 160 years ago, when maître d'hotel butter—augmented with parsley and lemon—started showing up in French kitchens. (Whether it was created for its own sake or as a canny solution to the issue of leftover scraps has been lost to history.) But in recent months, scores of chefs have been capitalizing on flavored butter's potency and how easy it is to toss on a wide array of dishes to instantly amp them up. Even Spain's Albert Adrià, of the famed experimental kitchen El Bulli, is hawking two packaged butters (porcini and sourdough) with the British pasta company Atavi.

"They are an essential of classic cooking," Tourondel says, and an "indispensable" convenience. "They are a highly effective and efficient way to add another layer of flavor and richness. It's especially important in today's fast-paced kitchens."

Monsod agrees: "Butter has always been a staple, but now diners are craving something beyond the traditional. It's about layering flavor in unexpected ways, taking something familiar and making it exciting again."

Compound butter can be dead easy to make—you basically just smoosh everything together. The key is ensuring the base is soft enough to incorporate ingredients such as diced olives or dried spices. This adaptability allows for unorthodox options like the pineapple butter chef Enrique Olvera serves with his pollito al pastor (sweet-spicy chicken) at Damian in Los Angeles. In New Orleans, at 34 Restaurant & Bar, E.J. Lagasse and his famous father, Emeril, serve a house-smoked butter and one imbued with honey and piri piri peppers with the bread service.

At the neighborhood steakhouse American Beauty in Los Angeles, executive chef Elisha Ben-Haim uses the golden fat as a blank canvas: "We always play around with interesting flavors in our butter accompaniments, like green garlic or bone marrow," she says. Her favorite among her arsenal is the "XO" butter, evoking the beloved Hong Kong sauce made with shrimp, scallops and dry-cured ham; she serves it with grilled lobster tail.

Chef Akhtar Nawab of Wayward Fare in Brooklyn, New York, offers charred scallion butter alongside a dry-aged sirloin. To make it, he confits green onions in beef fat, then blends in anchovies, yeast and fish sauce so it acts as a potent replacement for salt. What can't butter do? Ⓑ

■ KIMBERLY MOTOS

COMMUNITY TABLES

THE HOTEL DINNER PARTY

By Kate Krader
Illustration by Dror Cohen

Hosts and entertaining aficionados had reason to celebrate in 2024. It was “the year of the dinner party,” according to *Eater*. There were cookbooks devoted to the subject, and Gen Zers, apparently sick of hearing how isolated they are behind their screens, embraced the format as if they’d invented it themselves. The revival of small gatherings around a dinner table has proved to be an unlikely engine for social connection—and for showing off pandemic-acquired cooking and table-setting skills.

You might think of this trend as one that begins and ends at home. But you’d be wrong. Hotel operators have been paying attention to the value of a dinner party, too. As more travelers, including solo ones, seek memorable experiences on the road, and community wherever they can find it, hotels and resorts around the world are transforming their restaurant services into the kind of dinner party you’d love to attend. This means offering long communal tables and outdoor spaces that feel like a backyard patio, where strangers can pass platters, clink glasses and socialize.

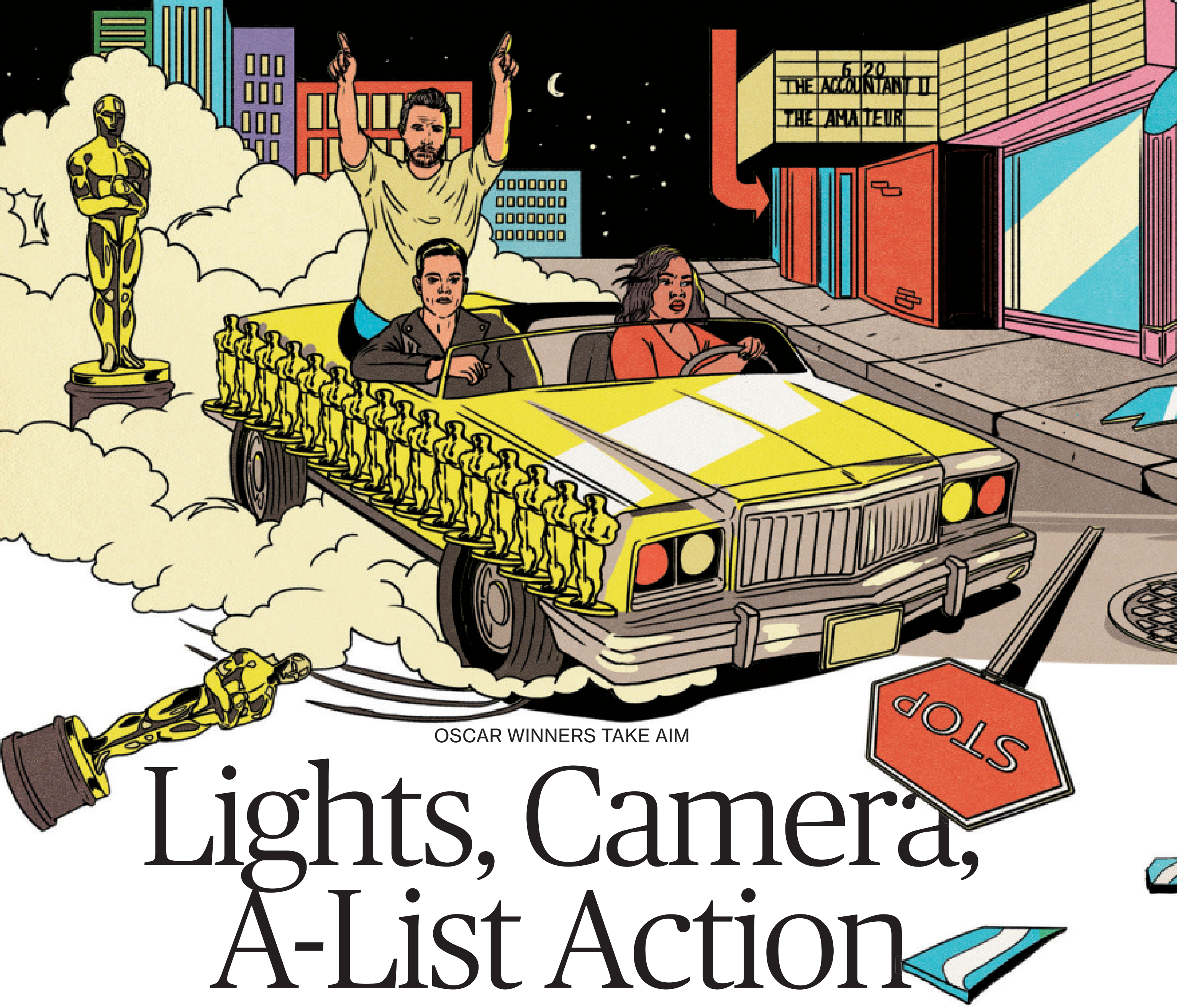
In September, Florence’s 25hours Hotel Piazza San Paolino introduced the Griglia menu at its new Cecchini in Città restaurant, from the celebrated Italian butcher Dario Cecchini. Served nightly at a 20-seat table, the menu’s family-style dishes include bread with whipped lardo (Cecchini’s answer to butter) and a monumental charcoal-grilled bistecca alla panzanese (beef round) with homey foil-wrapped baked potatoes.

The experience has been a hit, says Bruno Marti, executive vice president for brand marketing at 25hours Hotels. The key, he says, is the shared food. Merely seating guests at a communal table with a regular menu doesn’t do the trick: “People are just sharing the space and not the experience.” Now, the Griglia table has become a destination dining spot, and there’s been a ripple effect. “The buzz, noise and joy from the main dinner table ignites a good atmosphere for the whole restaurant,” Marti says. “Many guests come back to book the set menu for their next visit.”

Part of the draw of these soirees, where you might find vacationing Americans chatting with Italians who think of Cecchini as the local butcher, is the chance to sample regional cooking while having serendipitous conversations. On Friday evenings at Our Habitas Ras Abrouq resort in Qatar, the communal barbecue Humo at the waterside beach bar Qissa is a draw for guests and locals alike. Chef Vicente Vidal works a multitiered grill on the sand, cooking lamb, prawns and beef skewers to go with herb hummus, smoked labneh and other mezes. Vidal says he loves watching people “join tables of fellow strangers.”

In fact, resorts that once put a premium on helping guests avoid seeing another soul while on vacation are now mixing up tables and creating dining experiences for a crowd. At the Patina Maldives in the Fari Islands, a plant-based dinner at Roots restaurant is served at a giant stone table for 10.

On the other side of the Indian Ocean, at the luxurious Soori Bali, the Indonesian restaurant Cotta has a pair of long tables for communal dining and features specialties such as nasi tumpeng, a towering turmeric rice dish that gets passed around with bowls of empal gentong (beef curry cooked in a clay pot), platters of satay and other regional specialties. And in April the resort will open a cliffside teppanyaki restaurant with an outdoor kitchen that functions as both a place to griddle meats, fish and vegetables and a spot for people to gather around, drinks in hand, to start the party. B



OSCAR WINNERS TAKE AIM

Lights, Camera, A-List Action

By Esther Zuckerman
Illustrations by Maria Jesus Contreras

With awards season over and Serious Roles for Serious Actors in the rearview mirror for a bit, Hollywood is getting down and dirty (and bloody) this April with the big business of action flicks. And Oscar-winning stars are in the line of fire.

In *The Amateur*, Rami Malek is a mild-mannered CIA cryptographer until his wife is murdered and he begins taking down the people responsible. In *The Accountant 2*, Ben Affleck returns as an autistic book cooker who does work for mob bosses and can wield a gun. And in *G20*, Viola Davis is a US president who, luckily, turns out to be good at ass-kicking when terrorists attack the Group of 20 summit and her family goes missing. She's doing John McClane in a sleek red gown. Yippee-ki-yay…my fellow Americans.

There's a time-honored tradition of serious movie stars turning to thrillers for the paycheck and box-office footprint—just look at Liam Neeson and his *Taken* movies or Denzel Washington and his *Equalizer* franchise. But together these new films feel like a throwback to an earlier era of Hollywood. In those halcyon days (specifically, the 1990s), star vehicles didn't have to be prestige dramas or tentpole superhero franchise fare to attract A-list talent. They just had to be a blast.

This was exactly what Davis had in mind when she brought *G20*, which premieres on April 10 on Amazon Prime Video, to director Patricia Riggen. "It was very intentional in our case to have two main inspirations: *Air Force One*, because Viola plays the president, and *Die Hard*, because it happens over one night in one location," Riggen says. "Back in the '90s, we really cared about the character, and in a way we lost a little bit of that," she says of today's action films.

So what would draw a major actor to a high-octane thriller with an outlandish

premise? Well, filmmakers say, it has to be a role that tests them just as much as traditional Oscar bait. "It's hard to get movie stars just to do a straight action movie, because they are also looking for something to sink their teeth into from a character perspective," says Lynette Howell Taylor, a producer on *The Accountant* franchise.

For Affleck, that means playing Christian Wolff, a mathematical genius with the aim of a sniper. The first *Accountant*, directed by Gavin O'Connor, introduced Wolff and his idiosyncrasies and was a surprise success when it was released in 2016, taking in more than $155 million on a reported $44 million budget. Howell Taylor explains that it was Affleck's star power that got the film off the ground. "Sometimes nobody wants to be the first one to say yes if it's not already tried and tested," she says.

Now they have proof of concept. The sequel, in theaters on April 25, explores Wolff's relationship with his once-estranged brother (Jon Bernthal from *The Punisher* and *The Bear*) while also having these antiheroes dodge even worse guys than before.

The Amateur, out on April 11, has a similar title but swaps Affleck's quiet brawn for Malek's moody glare. Based on a 1981 novel by Robert Littell, it finds the Egyptian American actor, who's also an executive producer, playing Charles Heller, a CIA analyst who goes rogue—naturally—and begins to concoct elaborate strategies to avenge his dead wife.

"He loved the idea of being in an action movie, in a spy thriller that suited him," director James Hawes says of Malek. "There's a really good journey for an actor to play, plus you get all the excitement, the thrills and spills."

Hawes says he tried to hark back to the conspiratorial, Watergate-influenced movies of the '70s, like *Three Days of the Condor*. "It feels like the time for this kind of character-driven thriller," he says. "People want to shout for the underdog. They want to come out of the theaters at the end thinking, 'My guy won.'"

The goal is a freewheeling good time for both the actors and the audience. In late spring, we're not quite at big summer blockbusters yet, but the itch is there. "From the beginning, Viola wanted to make a fun movie," *G20*'s Riggen says. "This movie didn't have any intention of being political. We wanted popcorn."

Eat up. Ⓑ

Pursuits Picks for April

By James Tarmy

● TELEVISION

Carême

Inspired by Ian Kelly's book *Cooking for Kings: The Life of Antonin Carême, the First Celebrity Chef*, this series follows the titular character as he claws his way to superstardom in the early 19th century. He cooks for emperors and princesses in the leading kitchens of Europe—and spies for Napoleonic France. Shot in Paris with a French cast, *Carême* promises to combine the mesmeric quality of a cooking show with the magic of a period drama. *April 30 on Apple TV+*

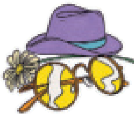
● BOOKS

Surreal: The Extraordinary Life of Gala Dalí
by Michèle Gerber Klein

History hasn't been kind to Salvador Dalí's imperious wife and fixer, Gala. But her biography is remarkable: She grew up in czarist Russia and, once in Europe, took multiple surrealist celebrities (Paul Éluard, Max Ernst) as romantic partners before marrying Dalí and ruling his lucrative artistic empire. This lively, sympathetic book paints her as both a creature of her time and a forerunner of a more entrepreneurial art world. *April 1*

● FILM

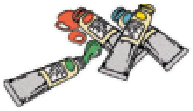
One to One: John & Yoko



Using home movies, previously unreleased recordings of phone conversations and 16-millimeter footage of the only full-length concert John Lennon gave after the Beatles, documentarian Kevin Macdonald shows how Lennon and Yoko Ono (belatedly getting her due as an important artist and cultural figure) used their fame for political and social ends in freewheeling 1970s New York. *April 11*

● ART

"Sargent and Paris" at the Metropolitan Museum of Art, New York



About 100 paintings, watercolors and drawings chronicle the early career of John Singer Sargent, one of America's best-known artists. Organized in collaboration with Paris' Musée d'Orsay, it will be the largest international exhibition of his work since 1998. The Met's beloved *Madame X* will be included, along with portraits by Sargent's late-19th-century contemporaries. *April 27 to Aug. 3*

● THEATER

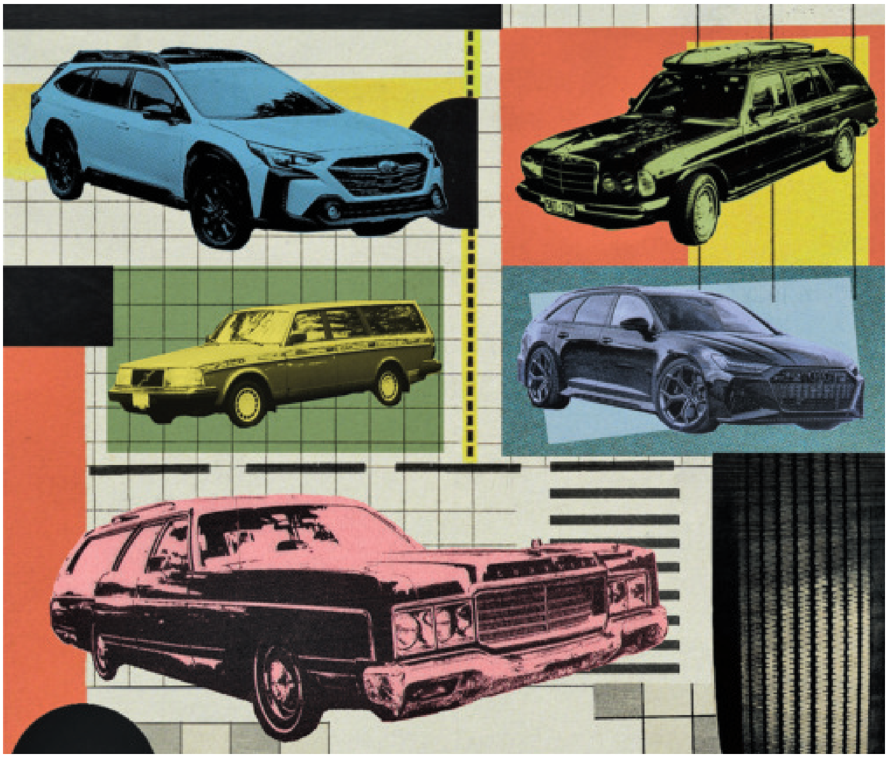
Good Night, and Good Luck

Having directed, co-written and co-starred in the 2005 film about the clash between broadcaster Edward R. Murrow and Joseph McCarthy, George Clooney has now adapted it for the stage—and his Broadway debut. Other cast members in the limited run: Ilana Glazer (*Broad City*) and Clark Gregg (*The Avengers*). *April 3 to June 8*

IT'S HIP TO BE SQUARE

ON THE WAGON TRAIN

By Hannah Elliott
Photo illustration by Jordan Bohannon



When Jeff Adler sold his tomato-red 1985 Mercedes-Benz station wagon in 2009, it had 314,000 miles on the odometer. "I just loved it. I felt great driving it," says the New York real estate agent. The 300TD wagon reminded him of childhood visits to car shows in Manhattan with his mother. He liked the feel of the wide steering wheel, the style of its elegant long body and the lower-priced diesel it sipped instead of guzzled. "I felt like I was making a statement," he says. "I got nothing but joy from driving that car, pure joy."

One might expect this kind of ardor for the muscle cars of one's youth or the sleek coupe their era's James Bond drove. But station wagon aficionados feel as much passion for the once-humble, utilitarian conveyance. The devoted are not just English professors and NPR hosts. Ask around at any cocktail party or barbecue, and you'll find at least one wagon buff who's long owned and adored theirs.

But for years, the depth of such affection has been inversely related to the number of wagons produced. After the heyday of ultra-extended models like the Ford Country Squire and the Chrysler Town & Country in the 1970s and '80s, the popularity of wagons has slowly, steadily sunk as minivans and SUVs ascended. Families gravitated to the latter for their extra cargo space and rugged capabilities and the ease of moving around in them; car companies liked that they could charge more for them. On any given day, Kelley Blue Book lists 2 million new vehicles in its database; if you choose the wagon body style, the number drops to only about 1,300.

Station wagons earned their credentials honestly, with a long history of form following function. First appearing in the 1930s with Ford's Model A and Pontiac's Deluxe Six series, they were named for the depot hacks that carted luggage to and from the train station. Willys-Overland Motor Co. started mass production of Jeep wagons after World War II, and the body style grew in popularity as families flocked to the suburbs, reaching peak cultural saturation when Chevy Chase's Clark Griswold drove a boat of a woodgrain-trimmed Country Squire in 1983's *National Lampoon's Vacation*.

Today's wagon fans fall into three main tribes: Some prefer a sport wagon, like the astoundingly fast 2025 Audi RS 6 Avant Performance ($126,600); it offers as much horsepower and torque as a sports car half its size. Many cherish the classic bricks, like the Volvo 200 Series of the 1970s and '80s. (Values have long hovered between $5,000 and $20,000 on Bring a Trailer, an online marketplace for vintage cars.) And finally there are outdoorsy adventure wagon lovers, who've been loyal to the plucky Subaru Outback since its debut in 1994. (New ones start at $29,010.)

"They're great cars for the undulating and winding roads of Texas Hill Country," says Ray Napoles, a compliance and risk management consultant in Austin who's owned two Outbacks and plans to pass one to his son in a few years. He'd like to eventually transition into an Audi A4 Allroad wagon–nothing against the Subis, he says: "I've been super impressed."

Subaru, in fact, accounts for more than 80% of the new wagons sold in the US–a segment that constitutes only 1% to 2% of the market. You can find other

■ PHOTOS: COURTESY COMPANIES (2), ALAMY (3) ■ ILLUSTRATIONS BY TARN SUSUMPOW

makes of wagon, sure, but you need to know where (and how) to look. They're more plentiful and popular across the Atlantic. In the UK, search for "estates"; elsewhere in Europe, look for so-called kombis, sportbrakes, tourings and avants. They're all wagonish.

Audi and Mercedes-Benz still sell some wagons in the US, though spokespeople from both companies declined to specify what fraction of overall sales they represent, and a brand-new 2026 Audi A6 Avant unveiled on March 4 won't be sold in America. "E-Class All-Terrain customers are some of our most loyal and passionate," a spokesperson for Mercedes said in an email, adding that wagon buyers are also among the most affluent. BMW makes just one for the US, the $121,500 M5 Touring. Porsche makes a variant of its Taycan sedan that's wagon-adjacent. Even the CEO of Volvo made comments in March about de-emphasizing wagons to focus on SUVs and sedans.

The scarcity won't dissuade the determined connoisseur. "An SUV is overkill, and wagons always look better in my opinion," says Spencer Olinek, who works in the utility industry and lives in the San Francisco Bay Area. His Volkswagen Golf Alltrek fits his lifestyle better than anything beefier—literally. "Our building was built in 1965, and the midcentury modern garage wasn't sized for big, dumb trucks."

Myriad modern and classic wagons can be had at online sales platforms including Bring a Trailer, Hemmings and Cars & Bids, as well as on Autotrader, Craigslist and eBay Motors. Or further afield. New York-based writer David Coggins almost had to go to Sweden to find his. When he turned 40 a few years ago, he wanted a very specific Volvo, the XC70, which he considered "iconic." But the company had discontinued the model, and it was hard to find in the US. He took to scouring Swedish used-car websites at 2 a.m. trying to find the right one: black, "of course," and not too polished, like a watch you inherit from your grandfather, he says. And not the one with the "grannyish" gray interior. Coggins imagined something he'd like to park in front of a shabby-chic country home. "I want one that looks assured, established and a little well worn. Nice, but not trying too hard."

In the end, a 2016 XC70 far closer to home, in Dutchess County, New York, caught his eye. He's owned it ever since, driving it on weekend jaunts, often packed to the gills with fishing tackle, Depeche Mode CDs and assorted thick cardigans. Like many of his compatriots in the wagon world, Coggins can't fully explain the appeal. It's like the Roman Empire, he says—something you inexplicably find yourself thinking about often. You don't have to fully understand it to love it. "Wagon life is the best life."

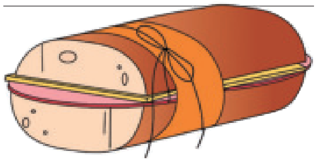
CEO DIET

When the Boss Has a Snack Attack

By Kate Krader

NICOLAS BUDZYNSKI

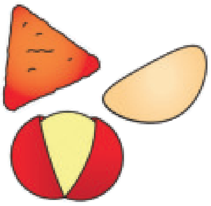
La Petite Maison restaurants



"Being French, I can never say no to a great pain au chocolat or nice croissant. A nice ham and cheese sandwich is also something I have difficulty resisting."

RYAN CLOSE

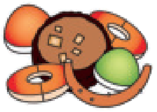
Bartesian



"Spicy Doritos, far too much of any and all types of cheese and anything dill-pickle-flavored."

LEANN DARLAND

Talea Beer



"At Talea we keep a stash of 'snacky snacks' on-site at all times, everything from honey-roasted cashews and chocolate peanut butter pretzel balls to a variety of gummy rings and fruity candy."

ADAM STEWART

Sandals Resorts International

"Mixed berries and cashews, because I like the balance of sweet and crunchy. If I need a pick-me-up, it's always a fresh cup of coffee from Jamaica, my home country. It's the best in the world."

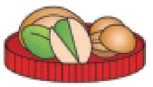
MEENAKSHI LALA

UrbanStems

"I like toasted coconut and dark chocolate chips when I crave something sweet. I also love a cup of Indian spiced chai with almond milk. I make my own, always. Boil some water with cardamom pods and freshly grated ginger, add loose black tea. Bring to a rolling boil and add a splash of milk. Pro tip: A pinch of fresh black pepper really brings out the spicy ginger flavor."

ROB LYNCH

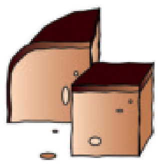
Shake Shack



"I am nuts about nuts. Every kind, from pistachios to peanut butter—Jif creamy, to be precise. Also, I eat a banana every morning. It's the perfect food."

CRISTIANO RINALDI

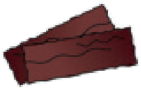
Capella Hotel Group



"My favorite snack is homemade sourdough croutons, made from my wife's artisanal loaves. They transport me straight back to my childhood in Rome, where I spent countless evenings in our family kitchen, watching my father roast bread slices over our fireplace for bruschetta. Every detail stirs the senses—the aroma of toasting bread, the warmth, the rich sheen of olive oil."

GREG LAVECCHIA

Bloom Nutrition



"I've been a beef jerky connoisseur since Slim Jim was the only option."

Roseau cruise port

■ DISCOVER DOMINICA

THE GREEN TRAVEL CONUNDRUM

Nature Island Versus Tourism

By Lebawit Lily Girma

Dominica is an island resplendent with natural wonders. Semiactive volcanoes spike out of a lush forest covering more than half of the island, and black sand beaches spill into an ocean teeming with sperm whales year-round. Yet to many ecotourists, this Caribbean paradise, 75 miles north of St. Lucia, remains under the radar. With no direct flights from the US East Coast until this February, getting to Dominica and its few luxury hotels required connections in Miami or San Juan, Puerto Rico. But that was the point: Nature Island was worth the trouble.

By 2026 it will be even more connected. The island plans to add another airport and a yacht marina, and enhance its port to accommodate hordes of cruise passengers, with plans to eventually build a new facility. Those ship-bound day-trippers—an estimated million of them each year—will skip strenuous hikes and instead use a 4-mile-long gondola system to see the mountainous Roseau Valley and its stunning *pitons* (forested peaks). Visitors coming off large commercial planes will find new big-box resorts, courtesy of Marriott International Inc. and Hilton Worldwide Holdings Inc. It's all part of a $100 million plan to turbocharge tourism within five years. Currently only 84,000 visitors stay overnight on the island annually; by 2030 the goal is at least 500,000.

Tourism Minister Denise Charles-Pemberton says plans are modeled on ecotourism successes in Costa Rica and New Zealand. But not all Dominicans are cheering on these developments. Neither of those two (much bigger) countries increased tourism so sharply, so fast, and some environmentalists are sounding the alarm. For the experts at nonprofit group Waitukubuli Advocates for Viable Environments (WAVE)—Waitukubuli is the Indigenous Kalinago name for Dominica—Charles-Pemberton's plans represent a looming existential crisis.

Runoff from infrastructure construction, they say, is already polluting rivers and beaches and destroying protected wetlands. Not only does that endanger the natural assets that travelers come to see, but it also puts the island itself at risk: The reefs and wetlands serve as buffers for strong storms, a critical concern after more than half of the island's infrastructure was destroyed or damaged during Hurricane Maria in 2017.

Take the construction of the second international airport. WAVE Executive Member Atherton Martin says concrete was used to harden the area's red mud soil, a practice he says is already blocking tributaries to one of Dominica's 12 major rivers and raising the risk of flooding and landslides. And that gondola project? "That's an area of the country we should never have touched," he says. The construction of towers and operation stations there, he continues, adds to an already high geological risk of landslides that can extend from the valley region all the way to the capital city of Roseau.

Martin isn't just a sustainability advocate. He's also an agricultural economist and soil scientist who twice served as Dominica's agriculture minister and now owns a handful of rental cottages on the island. He recalls growing up in Roseau and taking weekend trips with his dad to appreciate the island's natural bounty. In 1998 he received the international Goldman Environmental Prize, known as the "Green Nobel," for successfully opposing a proposed copper mine that would have destroyed 10% of the island's rainforests.

"Small spaces require an infinitely higher level of management and skill than large places," he says. "We have less than 200,000 acres of land" compared with Costa Rica's 12.6 million. "We can't afford too many errors."

Tourism in Dominica has until now been a delicate mix of small, family-run inns and luxuriously intimate properties that tread lightly on the land. Travel industry jobs already make up around one-third of an economy that's otherwise reliant on agriculture and manufacturing.

In 2011, Secret Bay, where guests at 23 hilltop villas have access to private chefs and three secluded beaches, became the first five-star spot to open in Dominica. Solar-powered newcomer Coulibri Ridge has only 14 studios and suites on 200 acres near the southern town of Soufrière. Both are within easy driving distance of Trafalgar Falls—a pair of cascades hidden by deep canyons, whose sprays make for almost constant rainbows—and the so-called Boiling Lake, in a volcanic fumarole whose steaming waters create the world's most scenic facial.

Martin and his colleague Margaux LaRocque, director and vice chair at WAVE, say the island is at a turning point. The gravel quarries that have emerged across its west coast, from Portsmouth down to Soufrière, to support infrastructure projects are "like big bruises in the mountains," LaRocque says. Construction blockages are slowing the river flows, and runoff is polluting the little water getting through.

Yet the two hold hope that things may turn around. One easy fix, Martin says, is relocating the nine-slip megayacht marina being built inside the wetlands of Cabrits National Park. The current site, he says, serves as a key "flood control mechanism for the northern part of the island" and doubles as a hatchery for local fishermen. Almost anywhere else, a project this size would have far less impact.

When asked how the country plans to balance tourism growth with environmental impact, Charles-Pemberton says that Dominica isn't aiming for mass tourism and that the goal is to limit development in protected areas. Responding to a list of WAVE's concerns, she doesn't address them directly. "Our natural resources are our island's biggest assets, and we ensure all sustainability standards are met," she says.

That echoes what Costa Rican officials have said since the 1980s, long before the pandemic brought the effects of overtourism into clear view. But following in the footsteps of those rare countries with carefully considered sustainability goals isn't the way to go, Martin argues: Even ecopioneer Costa Rica has lately diluted its reputation by pursuing mass tourism and cruise visits.

Besides, Dominica is unique. Some of its more well-known draws have names that capture their magic: Red Rocks is so called for the bulbous, Mars-like formations on its stretch of the north shore; Emerald Pool has such ultraclear river waters, it reflects the jungle all around it; Champagne Beach gets its name from the tiny bubbles that float up from gas vents on the seabed, like nature's own Jacuzzi. And then there are the island's abundant geothermal pools, many surrounding the small village of Wotten Waven. The tradition is to slather on detoxifying sulfuric mud and dip into the volcanic bathtubs carved into verdant cliffsides. If you're lucky and it's Sunday, you can dry off in time for a villagewide church cookout.

"Dominica is one of the last spots on the planet that proves it's possible to have a high quality of life without destroying the place," Martin argues. "That's the magic of Dominica. That should be the reason people come." Ⓑ

Emerald Pool

Quarterly Review

● **By Aimee Lucido**

Time to see how much attention you paid to the news in the first quarter. Every question below is about a story from this year. How many can you get right? To find out, turn to page 12 and check your answers.

And if you like this game, check out Pointed, Bloomberg.com's new weekly news quiz, at **bloomberg.com/games/pointed**.

1. In 1516 this place became part of the Ottoman Empire. In 1831 it was occupied by Egypt. After World War I it became a quasi colony of Britain. It's changed hands many times since then, perhaps most notably in 1967 and 1993. Now, President Donald Trump has expressed his desire to turn it into the "Riviera of the Middle East." What is it?

A. Gaza
B. Aleppo
C. Rafah
D. Haifa

2. Two companies released a statement announcing their partnership to start an apparel brand. According to the companies, the product line is "designed to sculpt and engineered to perform." What's the name of the brand?

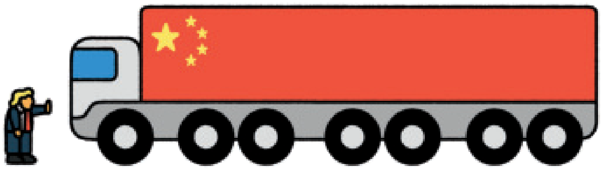
A. LuluBalance
B. NikeSkims
C. PumAlo
D. Spanxics

3. Argentine President Javier Milei was implicated in a cryptocurrency scandal after promoting a certain meme coin on X. What's the name of that coin, which is appropriate given Milei's political leanings?

A. Libra
B. Izquierda
C. Doge
D. Dexter

4. Trump temporarily suspended an almost century-old tariff exemption. As a result, packages piled up at customs offices across the country, many of which were from low-cost Chinese marketplaces such as Temu and Shein. What's the apt name of this exemption?

A. De minimis
B. Pretiosa bona
C. Ad valorem
D. Pro rata



5. A fundraiser run by Sazerac Co. for Los Angeles fire relief auctioned off a barrel of bourbon that sold for more than $800,000. What was the brand, which partially takes its name from a short story published in 1819?

A. Pappy Van Winkle
B. Jack Daniel's
C. Four Roses
D. Old Raven

6. Relative to investors' outsize expectations, Nvidia Corp. delivered slightly underwhelming results for the fourth quarter of 2024. The company, however, said its new chip, which is named after the first Black scholar inducted into the National Academy of Sciences, has been hugely successful. What's it called?

A. Hopper
B. Johnson
C. Blackwell
D. Banneker

7. Two-time Academy Award-winning actor Gene Hackman was found dead in his home in New Mexico. One of his most iconic roles was in 1971's *The French Connection*, in which he played a detective whose nickname would go on to inspire the name of the company with the stock ticker PLKI. What's that nickname?

A. Polkadot
B. Penske
C. Palantir
D. Popeye

8. Earlier this year, local officials took over operational control of Vanke, one of the last surviving real estate giants in their country. The national government subsequently began working on a plan to fill a 50 billion ____ ($6.8 billion) funding gap for the company. What currency fills in the blank?

A. Rupee
B. Yuan
C. Krone
D. Rand

■ ILLUSTRATIONS BY DOMINIC KESTERTON

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